In the Matter of

OSHA Emergency Temporary Standard

Docket Number OSHA-2020-0004

Comment Submitted by Theo Allen submitted *pro se*

Part I-A

Ground 1. Limitation to Healthcare Workers	4
Statutes	5
Agency Explanation	5
Disproportionate Risk	8
No Action Alternative	11
Elevated risk	12
Vaccination Status	21
Mask Requirements	28
Personal Protective Equipment	29
Settings Based Approach	33
Feasibility	35
Workers Compensation	36
Enforcement	36
Actual complaints	41
Ground 2. Denial that COVID is Airborne	45
Respiratory Droplets	50
Distance	54
Surfaces	56
Aerosol Generating Medical Procedures	57
Experts Letter	64
Other cases	65
Influenza	72
CDC Contradiction	74
Consequences	75
Ground 3. Vaccination Efforts are Insufficient	76
Goals	77
Risks for Unvaccinated	79
Vaccine Mandates	79
Ground 4. Insufficient Protection for Known Exposure to COVID-19	81
Requirements for Known Exposure	82
Close Contact	84
PPE for Testing	86
Notification of Workers	86
OSHA Citation	87
Ground 5. The Right to Quarantine or Isolate is Needed	91
Ground 6. Rapid Testing should Replace Screening	93

Ground 7. For PPE, Focus on Respiratory Protection	
Respirators	95
Masks	99
Eye Protection	103
Contact Transmission	104
Implementation	105
Ground 8. Plexiglass is Harmful	105
Ground 9. Outdoors	112
Ground 10. Limitations on the Rule	113
Application	113
Low Risk Settings	114
Ground 11. Other Grounds	115
Aerosol Generating Persons, not Procedures, Generate Risk	116
Physical Distancing is Still Important	118
Ventilation is Key	118
Training	118
Anti Retaliation / Recordkeeping	120
Model Plan	120
Scientific Integrity	121
Calls for Emergency Temporary Standard	122

The Occupational Safety and Health Administration (OSHA) has submitted a rule to protect healthcare workers from COVID-19. This proposed rule is contrary to the science and is inadequate to protect workers from the virus SARS-CoV-2. 600,000 Americans died from COVID-19 in a period slightly over a year, and OSHA has a year later and nearly two months after the deadline set by President Biden, an inadequate emergency temporary standard. Pursuant to 29 U.S.C. § 655(b)(3), I request a hearing on this petition and upon the grounds specified, and demand that the emergency temporary standard be adjusted to adequately protect all workers.¹

OSHA made two fundamental errors in issuing the emergency temporary standard that warrant correction:

- 1. All workers are at grave risk from COVID-19. The limitation to healthcare workers who may be "exposed" to COVID-19 is arbitrary and capricious.
- 2. The route of transmission of COVID-19 is via the airborne route, with the contribution of droplets and contact transmission being negligible and not posing more than a *de minimis* risk to workers.

Ground 1. Limitation to Healthcare Workers

The first request is that the scope be expanded to all workers covered by OSHA, and that the scope be modified from "The ETS applies to all settings where any employee provides healthcare or healthcare support services except: ..." to "The emergency temporary standard applies to all settings where any employer, regardless of occupation, performs work."

4

¹ I am grateful to the assistance of many individuals who support this petition in assisting drafting this brief. No financial contributions were accepted or made from any person in this submission.

Statutes

As specified in 29 U.S.C. §655(b)(5): "The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that <u>no</u> employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life."

In order to issue an Emergency Temporary Standard, the Secretary of Labor is required to determine pursuant to 29 U.S.C. §655(c)(1) "that employees are exposed to grave danger from exposure to [COVID-19] and that such emergency standard is necessary to protect employees from such danger."

Agency Explanation

The reason OSHA declined to expand the emergency temporary standard is as follows and is printed on page 80:

"The combination of data from clinical trials and data from mass vaccination efforts points increasingly to a significantly lower risk in settings where all workers are fully vaccinated and are not providing direct care for individuals with suspected or confirmed COVID-19. OSHA has therefore determined that there is insufficient evidence in the record to support a grave danger finding for employees in non-healthcare workplaces (or discrete segments of workplaces) where all employees are vaccinated. However, in healthcare settings where workers are vaccinated, as discussed below, the best available evidence establishes a grave danger still exists, given the greater potential for breakthrough cases in light of the greater frequency of exposure to suspected and confirmed COVID-19 patients in those settings (Birhane et al., May 28, 2021). In addition, the best available evidence shows that vaccination has not eliminated the grave danger in mixed healthcare workplaces (i.e., those where some workers are fully vaccinated and some are unvaccinated) or in those healthcare workplaces where no one has yet been vaccinated."

In addition, the following letter from Dr. John Howard from the Department of Health and Human Services was submitted to justify this determination.² This letter is based on the following reasons:

- Vaccinated healthcare workers are still getting COVID-19.
- The conditions for transmission occur at healthcare facilities
- Healthcare workers need elevated protection due to increased risk from being in close contact with infected patients
- Increased risk exists due to the variants.

Based on these conclusionary reasons, and ignoring the vaccine related reasons (because they would apply regardless of occupational status), reasons that I speculate that although the letter makes clear that the assessment request was limited to healthcare workers, the reasons plausibly suggested by the Department of Health and Human Services to rely upon to distinguish between healthcare workers and others (which constitutes mere scintilla) are:

- 1. That certain medical care, which is described as aerosol generating medical procedures,³ is of higher risk than other contacts.
- 2. The environmental factors in a healthcare facility increase the risk of exposure.
- Being within six feet of someone who is infectious with SARS-CoV-2 drastically
 increases the risk of getting COVID-19 even if wearing the proper personal protective
 equipment.
- 4. Healthcare workers are not wearing, in the United States, sufficient personal protective equipment to protect against COVID-19.
- 5. The likelihood of occupational exposure outside of healthcare facilities is lower due to a substantially lower frequency on being around people infectious with SARS-CoV-2.

² https://downloads.regulations.gov/OSHA-2020-0004-0889/content.pdf

³ The rule uses "aerosol generating procedure" instead, omitting the word medical.

Dear Mr. Frederick:

1 of 2

I am writing in response to your request for an assessment by the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, of the current hazards facing healthcare workers from Coronavirus Disease-2019 (COVID-19), the health condition caused by exposure to Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2).

While COVID-19 case rates are declining nationally and the vaccination rate is climbing, transmission of the SARS-CoV-2 virus continues to be a hazard of concern for healthcare workers. The available evidence shows that healthcare workers are continuing to become infected with SARS-CoV-2, the virus that causes COVID-19, including both vaccinated and unvaccinated workers, and the conditions for the transmission of the virus exist at healthcare workplaces. 1,2

Workers in healthcare settings that provide treatment to patients with suspected or confirmed COVID-19 face a particularly elevated risk of being infected with SARS-CoV-2. Regardless of vaccination status, healthcare workers need additional protections such as

respirators and other personal protective equipment (PPE) during direct care of patients with suspected or confirmed COVID-19.^{3,4}

The delivery of such care may involve high levels of exposure to SARS-CoV-2 because care delivery generally requires repeated instances of close contact with infected patients. In addition, given their role in providing care to patients with COVID-19, healthcare providers will be of greater risk of exposure to new SARS-CoV-2 variants, which may affect the effectiveness of COVID-19 vaccines.

If you should have additional questions, please contact me.

John Howard, M.D.

Miroctor

¹ Pilishvili T, Fleming-Dutra KE, Farrar JL, et al. Interim Estimates of Vaccine Effectiveness of Pfizer-BioNTech and Moderna COVID-19 Vaccines Among Health Care Personnel — 33 U.S. Sites, January-March 2021. MMWR Morb Mortal Wkly Rep. ePub: 14 May 2021, available at https://www.cdc.gov/mmwr/volumes/70/wr/mm7020e2.htm

² Teran RA, Walblay KA, Shane EL, et al. Postvaccination SARS-CoV-2 Infections Among Skilled Nursing Facility Residents and Staff Members — Chicago, Illinois, December 2020–March 2021. MMWR Morb Mortal Wkly Rep 2021;70:632-638, available at https://www.cdc.gov/mmwr/volumes/70/wr/mm7017e1.htm

Disproportionate Risk

OSHA states in the preamble: "And the impact of this new illness has been borne disproportionately by the healthcare and healthcare support workers tasked with caring for those infected by this disease. As of May 24, 2021, over 491,816 healthcare workers have contracted COVID-19, and more than 1,600 of those workers have died (CDC, May 24, 2021b)."

PROPERTY AND PROPERTY OF THE P	Excess deaths	COVID-19 deaths	Per-capita excess ^a	Relative excess ^b
Entire state	11,628 (10,779–12,468)	5,813	46 (43-49)	1.22 (1.20-1.24)
Facilities	2,119 (1,711–2,518)	1,093	83 (67–98)	1.23 (1.18–1.29)
Food or agriculture	1,424 (1,248–1,596)	691	75 (66–85)	1.39 (1.32-1.45)
Government or community	567 (459–673)	328	24 (20-29)	1.17 (1.13-1.20)
	611 (541–680)	395	30 (27–34)	1.17 (1.15–1.19)
Health or emergency	700 (662–738)	539	61 (57-64)	1.24 (1.23-1.26)
Manufacturing	601 (521–678)	263	38 (33-43)	1.21 (1.18-1.24)
Retail	1,649 (1,453–1,842)	772	91 (81–102)	1.31 (1.26-1.36)
Transportation or logistics	1,335 (1,077–1,590)	744	17 (14-20)	1.12 (1.09-1.14)
Not essential		988	59 (52–65)	1.25 (1.22-1.28)
Unemployed or missing	2,397 (2,139–2,653)	700	107 (02 00)	

^a Defined as the observed number of deaths minus the expected number of deaths, divided by the population size, and multiplied by 100,000. The measure compares the pandemic to the counterfactual non-occurrence of the pandemic, as modeled using pre-pandemic data. The reference groups are the same groups of interest, under the counterfactual exposure.

https://doi.org/10.1371/journal.pone.0252454.t001

Sadly, OSHA declines to accept that various other industries are at grave risk.

This California report among workers ages 18 to 65 shows that health or emergency is behind food and agriculture or government and community in total number of deaths.

Per capita, government / community and non essential workers are the only groups that had fewer excess deaths than healthcare workers⁴. And in terms of relative excess deaths, both government and community as well as healthcare workers had the same

b Defined as the observed number of deaths divided by the expected number of deaths. The measure compares the pandemic to the counterfactual non-occurrence of the pandemic, as modeled using pre-pandemic data. The reference groups are the same groups of interest, under the counterfactual exposure.

⁴ The study published at docket number <u>OSHA-2020-0004-1028</u> does not refute this fact, but shows exposure to frontline nurses occurs. This study suggests strong benefits for hydroxychloroquine, even though countless trials, including the Recovery Trial showed that was not effective, showed no benefit from this drug.

value of 1.17 while non essential workers were at 1.12 and other groups were much higher.⁵

In addition, much of the deaths among healthcare workers from workplace exposures were during the first wave in places like New York before healthcare workers took the unprecedented step of having so many people wear N95 masks. In fact, the reusing of N95 masks for several shifts did not harm workers. To the contrary, in Ontario, Canada, a study showed that healthcare workers did have significantly higher rates of spread compared to the general public. "In Ontario, HCWs have been disproportionately infected, making up nearly 20 percent of cases by late July 2020.6"

The summary of this study is that "[healthcare workers] have argued for better protections with minimal success. A worldwide shortage of N95s and comparable respirators appears to have influenced guidelines for protection, which stand at odds with increasing scientific evidence. In-depth interviews were conducted with ten frontline HCWs about their concerns."

Not aware of these facts, the OSHA guidance states "Workers face a particularly elevated risk of exposure to SARS-CoV-2 in settings where patients with suspected or confirmed COVID-19 receive treatment or where patients with undiagnosed illnesses come for treatment (e.g., emergency rooms, urgent care centers), especially when providing care or services directly to those patients." But why would transportation workers, food workers, and other essential workers who would not be engaging with

⁻

⁵ Chen YH, Glymour M, Riley A, Balmes J, Duchowny K, et al. (2021) Excess mortality associated with the COVID-19 pandemic among Californians 18–65 years of age, by occupational sector and occupation: March through November 2020. PLOS ONE 16(6): e0252454. https://doi.org/10.1371/journal.pone.0252454

⁶ Brophy, J. T., Keith, M. M., Hurley, M., & McArthur, J. E. (2021). Sacrificed: Ontario Healthcare Workers in the Time of COVID-19. NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy, 30(4), 267–281. https://doi.org/10.1177/1048291120974358

people suspected or known to be infectious with the virus SARS-CoV-2 be at heightened risk?

To be clear, the OSHA guidance asks about home health aids in the patient's home without asking whether the patient has contact with anyone other than the home aid. If the answer is "no", then the home health aid would be the person who would infect the patient, and in that case, would be in some ways at a reduced risk. The provision of medical services does not adequately distinguish a home health aid and any other domestic worker. The bigger issue is, unsurprisingly, with vaccine access, which home health workers are often lacking.

The Center for Disease Control and Prevention also is refusing to acknowledge contradictory evidence. Even though studies from Florida have shown that more students in attendance at school increase the likelihood of spread⁷ the claim that spread at schools does not occur is made. By contrast, a Missouri study considered what happens when mitigation is implemented⁸ and this link was not seen.

One additional area that should be addressed is congregate settings. According to OSHA on page 236, the reason that "persons frequently in congregate healthcare settings (e.g., nursing homes, assisted living facilities) are at increased risk of acquiring infection because of the increased likelihood of close contact." In congregate settings, you have many people sharing the air very frequently, and significant numbers of people work at congregate care settings. For example, it is not like a resident in a congregate

_

⁷ Doyle T, Kendrick K, Troelstrup T, et al. COVID-19 in Primary and Secondary School Settings During the First Semester of School Reopening — Florida, August–December 2020. MMWR Morb Mortal Wkly Rep 2021;70:437–441. DOI: http://dx.doi.org/10.15585/mmwr.mm7012e2

⁸ Dawson P, Worrell MC, Malone S, et al. Pilot Investigation of SARS-CoV-2 Secondary Transmission in Kindergarten Through Grade 12 Schools Implementing Mitigation Strategies — St. Louis County and City of Springfield, Missouri, December 2020. MMWR Morb Mortal Wkly Rep 2021;70:449–455. DOI: http://dx.doi.org/10.15585/mmwr.mm7012e4

care setting will wear a mask all the time, as it's the same as that person's home. As a consequence, the likelihood of exposure if living in any congregate setting is substantially higher. Once COVID-19 gets into the facility, the virus spreads like wildfire due to the shared air. In a nursing home or assisted living facility, the risks to residents are increased due to having increased medical needs.

No Action Alternative

OSHA failed to conduct an appropriate regulatory analysis in accordance with Circular A-4⁹. The issues include a no action alternative where this was not extended to all workers. And OSHA misunderstands what the risks of inaction are. Due especially to the May 13 individual guidance that it is safe to unmask when fully vaccinated due to the strength of the vaccines unless¹⁰ in a healthcare or transportation setting or if a business requires masking or masking is required by law, mask mandates have been generally lifted at settings such as colleges¹¹, schools even though the CDC guidance has said mask until the end of the school year¹² and mask mandates have been prohibited.

This has to be constructed in the scenario of where vaccine mandates are not being implemented and are being prohibited in a variety of states. Even in states where vaccine mandates are permitted, few are implementing them. Does the regulation consider the differences in vaccine access and vaccination rates that may¹³ exist between healthcare workers and others? Many workers lack access to vaccination, and tremendous misinformation about the safe and effective vaccines could cause the spread of the virus and promote vaccine evasion. Furthermore, the no action alternative benefits, which are reduced costs, are

⁹ https://www.regulations.gov/document/OSHA-2020-0004-0975

¹⁰ The unless clause makes no sense for reasons described below.

¹¹ https://t.co/dnZuzfGKwi?amp=1

¹² https://twitter.com/KristinThorne/status/1400905861535604738?s=20

¹³ Differences later will be shown to exist with healthcare workers having higher than average vaccination rates compared to other essential workers.

nonsensical in light of the trillions of dollars in global economic economy the pandemic has cost¹⁴ and how this proposal is intended to narrow the requirements on employers.

But instead of analysis of whether states or business or individuals would fix the risks for essential workers, OSHA did not. Instead of "the likelihood of individual actions" being considered, OSHA has ignored that others are likely unwilling to act, and as a consequence, many workers are unprotected. The risks from anti-vaxxers has been ignored and given misinformation from anti-vaxxers who have even submitted citizen petitions to the Food and Drug Administration to stop the COVID-19 vaccines. For reasons stated throughout the submission, the rule needs to apply to everyone to enhance public health, thus exempting it from the rigorous analysis that applies when "controls on entry into employment or production" are implemented. ¹⁷

The distributional analysis for healthcare workers on who the benefits of this would fall on has not been considered. To be honest, the distributional benefits of the rule appear to mostly go to home healthcare aids on the ground that their vaccine access would increase¹⁸. Considering the health inequality shown throughout this pandemic, hospital and long term healthcare workers had easy access to the COVID-19 vaccines, and the screening requirements for the exemptions appear to be very simple, this rule will have limited effect.

Elevated risk

The OSHA guidance continues "Through its enforcement efforts to date, OSHA has encountered significant obstacles, revealing that existing standards, regulations,

¹⁴ Coronavirus: Global GDP to sink by \$22 trillion over COVID, says IMF | News | DW | 26.01.2021

https://t.co/7RfHY6SAj0?amp=1

¹⁶ I have submitted responses to no less than three and a Citizen Petition calling on the FDA to fully approved the vaccines, declare they are safe and effective, and encourage vaccine mandates.

¹⁷ Most of these are temporary and they would apply very broadly, so this should not even apply. And with ventilation being reasonable improvements, and for small businesses, vaccination costs being reimbursed via tax refunds, the claim this restricts entry would be very difficult to make.

¹⁸ Given the burdens of the rule, I would suspect many home healthcare agencies would mandate the COVID-19 vaccine to avoid compliance.

and the OSH Act's General Duty Clause are inadequate to address the COVID-19 hazard for employees covered by this ETS. The agency has determined that a COVID-19 ETS is necessary to address these inadequacies. Additionally, as states and localities have taken increasingly more divergent approaches to COVID-19 workplace regulation—ranging from states with their own COVID-19 ETSs to states with no workplace protections at all—it has become clear that a Federal standard is needed to ensure sufficient protection for healthcare employees in all states."

States, especially after the May 13 guidance from the Centers for Disease Control and Prevention that has been seemingly misinterpreted to say that precautions are not needed if fully vaccinated, have been ending all precautions for workers, but this has not occurred for healthcare workers. On page 49 of the preamble, OSHA states "These observed disparities in risk of infection, risk of adverse health consequences, and risk of death may be attributable to a number of factors, including that people from racial and ethnic minority groups are often disproportionately represented in essential frontline occupations that require close contact with the public and that offer limited ability to work from home or take paid sick days."

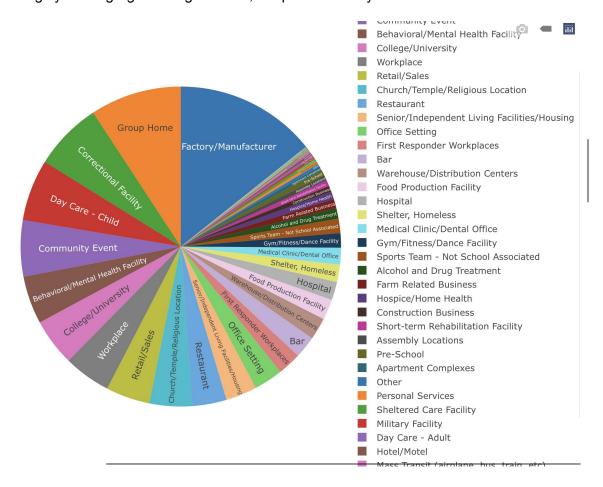
In Washington, while that shows a disproportionate share of cases in healthcare workers, the December 2020 data rates that only 43% of cases had employment data, even if 73% of Washingtonians in working class age were employed¹⁹, and only 41% in the age 18-64 range had such data available. Yet OSHA does not wish to consider that unless Washington had disproportionately high rates among healthcare workers, an equally plausible explanation was that non healthcare workers would be less willing to share employment status.

In Oregon, according to the May 19 report on clusters, excluding schools, childcare, and congregate living facilities, most workplace exposures appeared to not occur from healthcare.

-

¹⁹ https://downloads.regulations.gov/OSHA-2020-0004-0857/content.pdf

Yet OSHA claims clusters occur at healthcare, as is this is predominantly the case. Illinois saw clusters largely at congregate living facilities, not predominantly at healthcare.



²⁰ In North Carolina, only 4.7% of reported cluster were in healthcare, leading to 3.4% of cases

²⁰ https://www.dph.illinois.gov/covid19/outbreak-locations?regionID=&rPeriod=1

from all clusters, and only ten of 159 deaths from clusters occurred from healthcare clusters²¹.

This report includes 1) total cumulative reported clusters, cases, and deaths by type of cluster since May 22, 2020 (except for meat and poultry processing facilities, which were tracked beginning in April 2020 and 2) graphs per type of cluster showing trends over time. This report will be updated each Monday by 4pm.

Cumulative Reported Clusters, Cases, and Deaths by Type of Cluster

Cluster Category	Setting Type	Number of Total Reported Clusters	Total Cluster- associated Cases	Total Cluster- associated Deaths
Workplace	Agriculture*	10	126	0
	Construction/Contractor	21	151	0
	Food Processing	10	352	1
	Government Services ¹	111	954	4
	Manufacturing	109	1603	5
	Meat and Poultry Processing	42	5061	24
	Other Workplace	102	1045	6
Shopping	Retail	26	283	0
and Services	Personal Care Services ²	5	43	5
Food and Drinks	Bar/Brewery	3	17	0
	Restaurant	46	322	3
Child Care, Schools, and	Child Care	192	1578	3
	Camp	7	103	0
Higher	K-12 School	254	2451	0
Education	College or University	308	4233	1
Health Care ³	Health Care Setting	80	811	10
Community Living and Events	Religious Gathering	180	2519	41
	Social Gathering⁴	51	500	4
	Independent Living Facility	48	714	43
	Apartments**	6	100	1
	Community Event ⁵	3	51	0
	Other Community Setting	59	622	8
Total		1,673	23,639	159

^{*}Clusters in agricultural settings represent cases that did not occur among migrant farmworkers. Cases among migrant farmworkers are captured as outbreaks rather than clusters because they occurred in congregate living settings. See CONTO-19 Ongoing Outbreaks in Congregate Living Settings report for information about outbreaks.

NC Department of Health and Human Services | COVID-19 Clusters in North Carolina | June 7, 2021

Page 2

^{**}Clusters that occur in apartments among college or university students are included in the College or University setting type

^{1 -} Government Services includes first response, fire, law enforcement, courts, and government offices

^{2 -} Personal Care Services includes salons, barbers, and spas

^{3 -} Health Care includes hospitals, hospice facilities, and other non-hospital clinical settings. Cases among congregate living facilities are captured as outbreaks rather than clusters because they occurred in congregate living settings. See Congregate Living Settings report for information about outbreaks.

^{4 -} Social Gathering includes parties, family gatherings, weddings, funerals

^{5 -} Community Event includes concerts, festivals, rallies, and sporting events

²¹ https://covid19.ncdhhs.gov/media/725/download

A report published on the website for the Center for Disease Control and Prevention on Los Angeles County showed manufacturing, transportation, and warehousing were the most involved sectors in terms of clusters.²² But OSHA refuses to consider this guidance. Instead of looking at meat packing plants in Germany and a restaurant in China without accepting that these scenarios have occurred in the United States²³, applying this to the known outbreaks in the United States and accepting that transmission occurs at non healthcare workplaces would be rational.

OSHA also gives these reasons as to why healthcare workers are at elevated risk:

"Based on these methods of transmission, there are a number of factors—often present in healthcare settings—that can increase the risk of transmission: indoor settings, prolonged exposure to respiratory particles, and lack of proper ventilation (CDC, May 7, 2020)." Many workplaces are indoors, have inadequate ventilation, and exposure to others. Furthermore, according to OSHA, "these settings are typically not designed for physical distancing, and many areas in these facilities are not ventilated for the purpose of minimizing infectious diseases capable of droplet or airborne transmission." OSHA states "Even in healthcare settings where employees have their own offices or equipment, they often share a number of common spaces with other workers, including bathrooms, break rooms, and elevators."

Yet many workplaces have these same issues, such as office buildings, grocery stores, and other settings. The fact that the viral load is highest right before symptom onset, as the European Center for Disease Control, states, has been made irrelevant by the OSHA guidance which only applies to healthcare facilities. Other than being a close contact or symptomatic, how would it be possible for someone to screen adequately²⁴? Can a rapid test be performed?²⁵

_

²² Contreras Z, Ngo V, Pulido M, Washburn F, Meschyan G, Gluck F, et al. Industry sectors highly affected by worksite outbreaks of coronavirus disease, Los Angeles County, California, USA, March 19–September 30, 2020. Emerg Infect Dis. 2021 Jul. https://doi.org/10.3201/eid2707.210425

²³ https://downloads.regulations.gov/OSHA-2020-0004-0573/content.pdf

²⁴ While testing is encouraged, rapid testing is another tool.

²⁵ https://www.ecdc.europa.eu/en/covid-19/latest-evidence/infection



Viral load

Viral load, defined as a 'quantitative viral titre (e.g. copy number)' [14], is a useful marker for assessing viral kinetics, disease severity and prognosis.

A pooled analysis of individual patient data including 5 328 observations of viral load, estimated that SARS-CoV-2 viral load peaks seven days prior to symptom onset [14]. Similar results have been reported from a mathematical model, predicting that on average, viral load peaks one day before symptom onset [28]. SARS-CoV-2 viral load in respiratory samples peaks during the prodromal phase and then decreases constantly afterwards [14].

Patients with severe disease have significantly higher viral loads than patients with mild disease [14]. Older age has also been associated with higher viral loads [14,28,29]. However, it has also been shown that children have viral loads similar to that of adults [30]. Prolonged viral shedding with high viral load have been associated with poor outcomes in hospitalised patients [28].

cites other research states that viral load is highest before symptom onset. ²⁶ A study based on Upper Midwest hospitals showed that healthcare workers rarely get infected through patient contact.²⁷

OSHA also on page 105 cites statistics among healthcare workers, using a study early on in the pandemic. "Burrer et al. (2020) reported surveillance data on COVID-19 cases and deaths among "healthcare personnel" between February 12 and April 9, 2020." This was from an era where testing was lacking, many healthcare establishments did not have personal protective equipment, and until the very end of that period, the general public was told not to wear a mask. Various other studies were from early on, when much of the nation was staying at home, with the exception of essential workers. Another report on testing from March to April of 2020²⁸ reports a 3.4 times increased rate in the United Kingdom and 2.0 times increase in the

²⁶ Benefield AE, Skrip LA, Clement A, Althouse RA, Chang S, Althouse BM. SARS-CoV-2 viral load peaks prior to symptom onset: a systematic review and individual-pooled analysis of coronavirus viral load from 66 studies. medRxiv [Preprint]. 30 September 2020; Available at: https://www.medrxiv.org/content/10.1101/2020.09.28.20202028v1

²⁷ Braun KM, Moreno GK, Buys A, et al. Viral sequencing reveals US healthcare personnel rarely becoming infected with SARS-CoV-2 through patient contact. Clin Infect Dis 2021. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8083259/pdf/cjab281.pdf

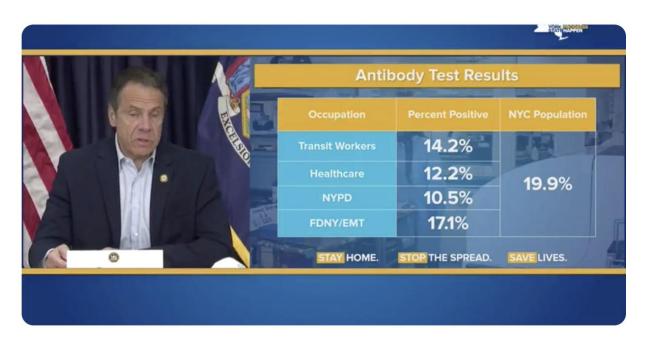
²⁸ This can be found at https://www.osha.gov/sites/default/files/covid-19-healthcare-ets-preamble.pdf#page110

United States. The UK increase can be explained by the lack of using respirators such as a FFP2 or N95, unlike the US, but it was also early in the pandemic. In total, the OSHA citations to the first wave are of minimal relevance in determining who is subjected to a grave risk from the virus.

One piece of evidence that OSHA does not cite is the antibody testing from New York
City, where the lowest group is the NYPD, followed by healthcare workers, transit, and the Fire
Department. During the pause, the police were ensuring people kept their distance and often
worked outside. Transit included buses with recirculated ventilation and closed windows, and
the subways with cramped break rooms, but the highest group was the Fire Department due to



New York has conducted a survey of 15,000 **antibody** tests, the largest in the nation, according to **@NYGovCuomo**. It's notable that frontline workers — transit workers, healthcare and first responders — in NYC have lower levels of exposure and immunity to the general population.



11:44 AM · 5/9/20 · Twitter Web App

OSHA should also consider that in Circular A-4, it says that multiple options should be analyzed. OSHA did not choose to take this step and analyze the cost benefit analysis for apply the rule to more workers than just healthcare workers. Given that it refused to perform such cost

²⁹ https://twitter.com/bhrenton/status/1259147363697995776?s=21

benefit analysis as described by Circular A-4³⁰, this cannot be evaluated based on OSHA guidance and needs to be evaluated using other measures. The assumption that the proposed rule provides adequate economic analysis³¹ shows why this is insufficient³².

"You should describe the alternatives available to you and the reasons for choosing one alternative over another. As noted previously, alternatives that rely on incentives and offer increased flexibility are often more cost-effective than more prescriptive approaches. For instance, user fees and information dissemination may be good alternatives to direct command-and-control regulation. Within a command-and-control regulatory program, performance-based standards generally offer advantages over standards specifying design, behavior, or manner of compliance.

You should carefully consider all appropriate alternatives for the key attributes or provisions of the rule. The previous discussion outlines examples of appropriate alternatives. Where there is a "continuum" of alternatives for a standard (such as the level of stringency), you generally should analyze at least three options: the preferred option; a more stringent option that achieves additional benefits (and presumably costs more) beyond those realized by the preferred option; and a less stringent option that costs less (and presumably generates fewer benefits) than the preferred option.

You should choose reasonable alternatives deserving careful consideration. In some cases, a regulatory program will focus on an option that is near or at the limit of technical feasibility. In this case, the analysis would not need to examine a more stringent option. For each of the options analyzed, you should compare the anticipated benefits to the corresponding costs. It is not adequate simply to report a comparison of the agency's preferred option to the chosen baseline. Whenever you report the benefits and costs of alternative options, you should present both total and incremental benefits and costs. You should present incremental benefits and costs as differences from the corresponding estimates associated with the next less-stringent alternative. It is important to emphasize that incremental effects are simply differences between successively more stringent alternatives. Results involving a comparison to a "next best" alternative may be especially useful."

The determination from the Center for Disease Control and Prevention, as our national public health agency, "that the remaining risk for fully vaccinated persons outside of healthcare settings is low enough to justify foregoing other layers of controls for settings where all persons are fully vaccinated and asymptomatic. but the CDC continues to recommend respirators and PPE for fully vaccinated healthcare employees in settings where patients with suspected or

³⁰ I am convinced that the reason is because then the cost benefit analysis would show the informational guidance that was issued to non-healthcare workers was inadequate and did not protect against the grave risk that all workers face from COVID-19. Had such analysis been done, I believe the cost benefit analysis s

³¹ I am not arguing for how the economic analysis should be performed, because that appears irrelevant to my submission.

³² OSHA also has noted that costs are *not* the primary concern, but protecting workers is. The rule fails to protect countless workers.

confirmed COVID-19 receive care." does not cover several areas. If outside of healthcare and not everyone is fully vaccinated or someone has symptoms, this guidance does not apply. In healthcare, if a patient if someone is present who does not symptoms or may be presumed to be unvaccinated, this also does not apply. The guidance should be modified to be consistent without regards to employment.

Vaccination Status

The guidance has shown that masks work, but especially with the Centers for Disease Control and Prevention May 13 guidance, these mandates have mostly been lifted. The statement that fully vaccinated³³ individuals are significantly less likely to spread the virus or develop symptoms if infected with the virus. In light of dangerous variants, including specifically B1617.2³⁴. Partial vaccination is believed to have significantly diminished effectiveness against this variant.

The fact the vaccines work does not vary by whether the vaccinated person is in a healthcare facility, around only people who are vaccinated, whether on transportation, or masks are required. In the words of Dr. Kizzy, "Because, I made the informed choice to get vaccinated, there will be a 94.5% reduced risk, I'll get COVID. And... that's pretty cool, if you ask me." 35

On the other hand, if the vaccine fails to work, some evidence exists, including by complex systems scientist who worked on stopping the Ebola virus in Africa, Dr. Yaneer Bar-Yam, this severity reduction is the same as transmission, which means breakthrough cases

³³ I would note the two week definition was probably decided for simplicity purposes by the Centers for Disease Control and Prevention.

³⁴ This is known as the "delta" variant, and was discovered in India, but I decline to use such naming. ³⁵https://twitter.com/KizzvPhD/status/1344399884733075456?s=20

are just as severe after vaccination 36



Reminder: Breakthrough cases after vaccination are about as severe as cases without vaccination.

Both severe cases and transmission are reduced by about 10-20X. So breakthrough cases have about the same **severity** as cases without vaccination.

Yet the CDC has said testing is no longer needed generally, and distancing is not needed between people fully vaccinated, even in healthcare. For the same reasons that COVID spreads in the same way regardless of whether a facility is labeled a healthcare or long term care facility, and the vaccinations work regardless of where a person is, the guidance should be similarly applied. A cruise ship fully vaccinated saw transmission even though everyone is fully vaccinated³⁷, yet Florida Governor Ron DeSantis says cruise lines cannot verify, contrary to CDC guidance, vaccination status of customers.38

Consequently, the OSHA guidance states "The evidence shows that the advent of vaccines does not eliminate the grave danger from exposure to SARS-CoV-2 in healthcare workplaces where less than 100% of the workforce is fully vaccinated. Unvaccinated workers can transmit the virus to each other and can become infected as a result of exposure to persons with COVID-19 who enter the healthcare facility."

To the extent OSHA claims that 25% of healthcare workers are unvaccinated and pose a risk to their health and safety, because of the heightened risk to unvaccinated workers, OSHA

³⁶ https://twitter.com/vaneerbarvam/status/1401536547296616448?s=21

³⁷ https://t.co/JrepWqDCSY?amp=1

³⁸ https://t.co/ROtebD55eH?amp=1

does not respond with a broader rule. "The development of safe and highly effective vaccines and the on-going nationwide distribution of these vaccines are encouraging milestones in the nation's response to COVID-19. OSHA recognizes the promise of vaccines to protect workers, but as of the time of the promulgation of the ETS, vaccination has not eliminated the grave danger presented by the SARS-CoV-2 virus to the entire healthcare workforce."

To the contrary, the vaccine policy would overlap with the May 13, 2021 interim final rule from the Center for Medicare and Medicaid Services.³⁹ Many long term care staff members have a risk of spreading COVID-19 to residents and others. The study in Kentucky that is being cited by OSHA demonstrates why this is the case, but even in that case, the risk was to the residents⁴⁰. But such a risk to residents does not qualify as a risk to staff, even though such policies are needed. OSHA's duty is to protect workers, and long care residents are not workers.⁴¹ This chart posted by Dr. Julia Raifman,⁴² who is the director of the Covid-19 US State Policies database, published on social media to show that workers are at lower rates of vaccination.

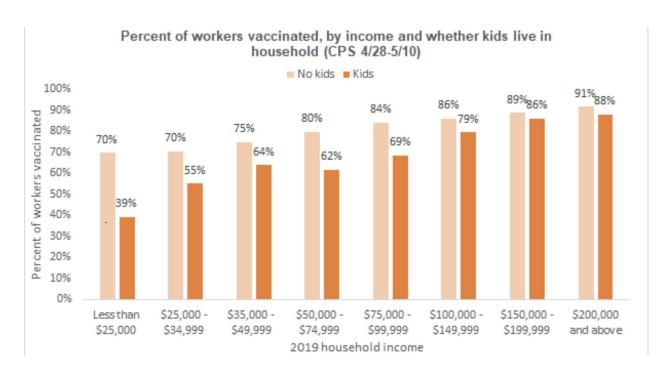
-

³⁹ CMS-2021-0084

⁴⁰ https://t.co/P4cpVzkIHR?amp=1

⁴¹ This can be implemented by the Center for Medicare and Medicaid Services, but not by OSHA.

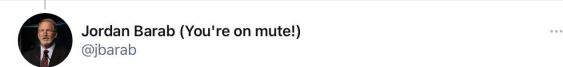
⁴² https://twitter.com/juliaraifman/status/1400811292173164545?s=21



Instead, you should listen to the former Deputy Assistant Secretary to OSHA from 2009-2017, Jordan Barab. replying to my post saying "The @washingtonpost finds that COVID-19 hospitalizations are as bad or worse now for unvaccinated people.⁴³ The other fact is that CDC reports that the vaccination rate for working age people is significantly lower than the rate for everyone above 18."⁴⁴

44 https://twitter.com/jbarab/status/1399013428648452096?s=20

⁴³ Dan Keating, Leslie Shapiro. "The Unseen Covid-19 Risk for Unvaccinated People." *Washington Post*, The Washington Post, 28 May 2021, <u>t.co/sapHllc0IV?amp=1</u>.

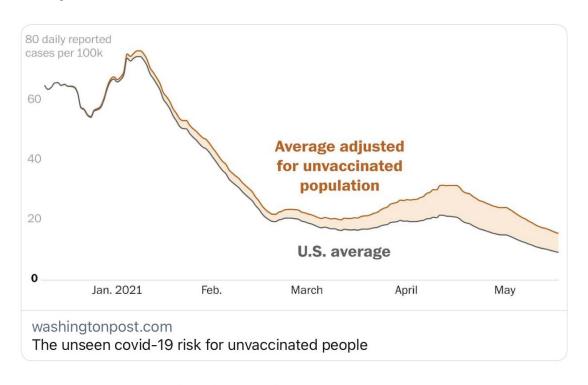


Replying to @UniversalMaski2 @LazarusLong13 and 47 others

The @washingtonpost

finds that COVID-19 hospitalizations are as bad or worse now for unvaccinated people.

The other fact is that CDC reports that the vaccination rate for **working age** people is significantly lower than the rate for everyone above 18.



10:42 AM · 5/30/21 · Twitter for Android

OSHA on page 20 continues "Consistent with these declarations, and in carrying out its legal duties under the OSH Act, OSHA has determined that **healthcare** employees face a grave

danger from the new hazard of workplace exposures to SARS-CoV-2 except under a limited number of situations (e.g., a fully vaccinated workforce in a breakroom)." But the new hazard is not affecting just healthcare workers, insofar as the data shows that the risk, which is properly categorized as grave risk" to healthcare workers is lower than many other categories of workers. OSHA even states in the document on page 90, "In March 2021, a survey found that healthcare employees reported some of the highest vaccination percentages of any sector."⁴⁵

Consequently, the work healthcare in this sentence is arbitrary and capricious. Furthermore, while the hazard exists in general, a fully vaccinated workforce in a space where only vaccinated people means the incredible power of the highly effective vaccines constitutes adequate mitigation of spread of the virus SARS-CoV-2.

OSHA categorizes the grave risk and why it matters to impose protection. But they categorize the virus as spreading in healthcare differently from elsewhere. With the risks of asymptomatic and presymptomatic spread being critical to stopping the virus, and the likelihood of spread being significantly lower when appropriate mitigations are applied, except for the myth of aerosol generating medical procedures⁴⁶, "The virus is both a physically harmful agent and a new hazard, and it can cause severe illness, persistent health effects, and death (morbidity and mortality, respectively) from the subsequent development of the disease, COVID-19. OSHA bases its grave danger determination on evidence demonstrating the lethality of the disease, the serious physical and psychiatric health effects of COVID-19 morbidity (in mild-to-moderate as well as in severe cases), and the transmissibility of the disease in healthcare settings where people with COVID-19 are reasonably expected to be present."

Instead of "people with COVID-19", saying "people who are infectious with SARS-CoV-2" is what needs to be focused. Having what is known formally as post acute sequelle of

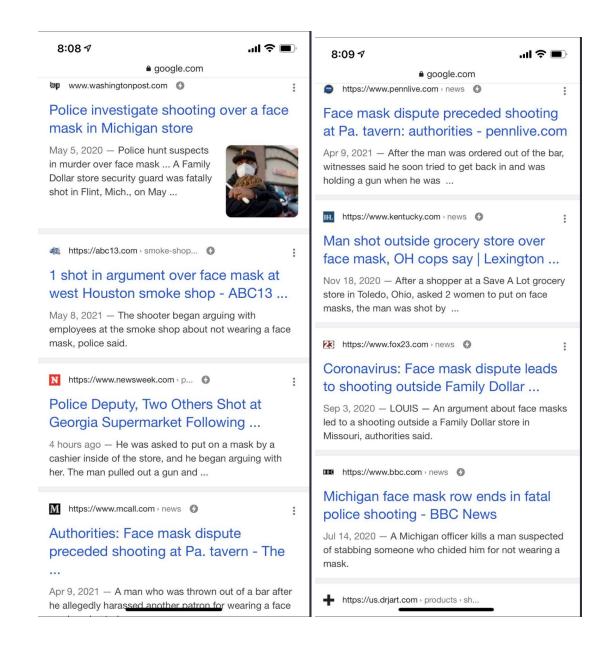
⁴⁵ I do not find a February 22, 2021 report on vaccination rates persuasive to contradict this. That was early on in the vaccination effort, before general availability opened by April 19.

⁴⁶ The mode of transmission of the virus is not relevant into why all workers should be covered under the same rule.

COVID-19, but is preferred by patients and advocates, long covid is not what endangers a worker. What is dangerous is being able to spread the virus that causes the illness, not the illness itself when a significant amount of spread is by people without symptoms. Since it is the virus that is dangerous, saying protection from the patient as opposed to transmission of the virus is key.

The reasons on page 80, which apply if everyone is fully vaccinated, does not negate why non healthcare workplaces which have unvaccinated workers are not at risk. And the conclusion "The authors concluded that to ensure outbreaks do not occur from breakthrough infections in workplaces with vaccinated and unvaccinated workers that the facilities need to maintain high vaccine coverage and non-pharmaceutical interventions. While these breakthrough events appear to be uncommon, it is important to remember how quickly a few cases can result in an outbreak in unvaccinated populations." can apply to any workforce, not just healthcare workplaces.

OSHA is not even willing to consider the risk caused by people who refuse to wear a mask on workplace violence. And some of this workplace violence has been attributed to the refusal to comply with not wearing a mask or tolerating mask wearing, at non healthcare establishments. This bolsters the need to protect all workers through the emergency temporary standard, so that people realize that they are forced to wear a mask. Per screenshots taken by CNN contributor and emergency physician Dr. Megan Ranney, you will see "if you Google 'mask shooting', you see that this is one of many such incidents in the US in the past year. (Screenshots of a few, below.)".



Mask Requirements

As mask mandates are being lifted pursuant to a misinterpretation of the May 13 guidance stating that vaccinated people do not need to wear masks, with many unvaccinated people, OSHA is requiring everyone in a healthcare facility to wear a mask. This deprives essential workers outside of healthcare of the benefits of universal masking.

Personal Protective Equipment

Furthermore, OSHA states "Accordingly, even though SARS-CoV-2 is a hazard to which employees are exposed both inside and outside the workplace, healthcare employees in workplaces where individuals with suspected or confirmed COVID-19 receive care have limited ability to avoid exposure resulting from a work setting where those individuals are present.

OSHA has a mandate to protect employees from hazards they are exposed to at work, even if

they may be exposed to similar hazards before and after work."47



"We're still hearing from many food workers that their jobs are not safe...we're still seeing big percentages of essential worker populations for various reasons not able to access the vaccination." - FCWA's Sonia Singh

ALL essential workers need an ETS!



politico.com

Biden administration will limit mandatory Covid workplace safety rules to health care settings

What this post says is "'We're still hearing from many food workers that their jobs are not safe...we're still seeing big percentages of essential worker populations for various reasons not able to access the vaccination.' - FCWA's Sonia Singh ALL essential workers need an ETS!"

⁴⁷ https://twitter.com/foodchainworker/status/1403026416640290819?s=21

Even as recently as April 18, 2021, in a submission cited in the submission that was subsequently updated⁴⁸, the FDA said to "reserve N95 respirators for healthcare workers."⁴⁹ The reason this will become apparent is due to the mitigation required will very frequently require respiratory protection due to the route of transmission, but I will explain why this is important later in this submission,



So with essential workers not having access to the same quality of masks as healthcare workers have, a better use would be that while "SARS-CoV-2 is a hazard to which employees are exposed both inside and outside the workplace," all employees who are exposed to people who may be infectious with SARS-CoV-2 "have limited ability to avoid exposure resulting from a work setting where those individuals are present [and are infectious]. OSHA has a mandate to protect employees from hazards they are exposed to at work, even if they may be exposed to similar hazards before and after work."

But why can OSHA say "This monumental tragedy is largely handled by healthcare employees who provide care for those who are ill and dying, leading to introduction of the virus

https://web.archive.org/web/20210418011236/https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html

⁴⁸ https://downloads.regulations.gov/OSHA-2020-0004-0617/content.pdf

⁴⁹

not only in their daily lives in the community but also in their workplace, and more than a thousand healthcare workers have died from COVID- 19. Clearly, exposure to SARS-CoV-2 is a new hazard that presents a grave danger to workers in the U.S." The reason this is being handled by healthcare workers lonely without friends or family of patients is because of the airborne precautions that are required to be around someone infectious with SARS-CoV-2 means without powered air purifying respirators or cooled air purifying respirators, which do not require a fit test, it is unsafe to allow family and friends to enter a covid unit at a hospital or elsewhere, due to the route of transmission, as discussed below.

This restriction of science can be seen on page 100. It does not require a study to show that someone is at risk of exposure to COVID-19 if in close contact with someone infectious with SARS-CoV-2, or that other unvaccinated people present are in danger once SARS-CoV-2 is introduced to the workplace. Yet OSHA states "However, the studies add to the evidence that any healthcare employee is at risk of exposure if they have close contact with others who are suspected or confirmed to have COVID-19. The studies also provide evidence that once SARS-CoV-2 is introduced into the healthcare workplace (e.g., through an infected patient, other members of the public, or employee), unvaccinated employees in that workplace are at risk of exposure."

OSHA does not consider that employees are not permitted in every state to wear an employee provided respirator, which OSHA mandates allowing under the emergency temporary standard. It refuses to consider studies showing healthcare workers in the US who are in close contact with COVID-19 patients have no significant difference in exposure because of personal protective equipment used, even though that exists elsewhere.⁵⁰

-

doi:10.1001/jamanetworkopen.2021.1283

⁵⁰ Jacob JT, Baker JM, Fridkin SK, et al. Risk Factors Associated With SARS-CoV-2 Seropositivity Among US Health Care Personnel. JAMA Netw Open. 2021;4(3):e211283.

A study of seropositivity in COVID-19 antibodies in Chicago, Illinois⁵¹ where the study suggests that the precautions at the hospital were aligned with World Health Organization guidance of droplet precautions except for aerosol generating medical procedures, where close contact exists, and the results of the study, suggest that when the proper personal protective equipment is not used, meaning not using a respirator like a N95 mask, the risk of exposure significantly increases.

Settings Based Approach

OSHA justifies the settings approach, but rather than defining settings, it creates arbitrary definitions. In considering settings, based on the fact that the virus transmits the same way regardless of whether a setting is a healthcare facility or not. In several settings, the OSHA guidance will only apply in the less risky healthcare setting. But even if you look at the page for long term care from the Center for Disease Control and Prevention, you see references to various diseases but not to COVID-19, notwithstanding the grave risks for COVID-19 in such settings.⁵²

Healthcare Setting	Non-Healthcare Setting
Employees working in a hospital in a cafeteria at a hospital where staff, some of whom are unvaccinated but all have been screened	The same activity occurs at a cafeteria building in an office building where nobody is screened and masks are optional
Employees performing admissions at the entrance of a dental office where everyone is masked behind floor to ceiling windows	A security guard who checks to make sure everyone has approval to enter a busy skyscraper in midtown Atlanta where many people are unvaccinated and unmasked
A person performing housekeeping at a hospital wearing the mini respiratory PPE and eye protection / gown / gloves and is spraying disinfectants that could get on their clothing and fogging the room	A hotel housekeeper going to clean rooms immediately after guests visit wearing a medical PPE spraying spraying disinfectants that could spray on their clothing and fogging the room

⁵¹ https://downloads.regulations.gov/OSHA-2020-0004-0855/content.pdf

33

⁵² https://www.cdc.gov/longtermcare/prevention/index.html

A prison healthcare clinic where a prisoner who is infectious with COVID-19 is in an airborne infection isolation room and the staff is wearing a fit tested N95, faceshield, and single use gown and gloves	The jail cells outside the healthcare clinic where prisoners are being quarantined in their cells and guards make in person rounds with only a level 1 surgical mask loose fitting with no brace.
A school nursing office in a public school in lowa City, lowa where the registered nurse screens everyone present and places the students in private rooms and has full PPE and MERV 13 filtration.	The classroom next door to the nurses office at that school, where state law makes masks optional, and students are packed with 30 loudly talking in class.
The home health aide who is required to wear a mask is in the home working is in the same room as the patient.	An unmasked cleaner who lacks paid time off to get vaccinated and is in the same room as the aid and the patient.
Seeing a psychiatrist to discuss a mental breakdown where the ETS applies.	Seeing a psychologist instead where everyone is unmasked and the ETS does not apply.
Medical waste workers who are vaccinated taking out the garbage.	Going through a crowded meat plant to take out the garbage.
A nurse puts a bandage in someone who is bleeding from a cut at work from a knife	The person putting the bandage on is a coworker
A person picks up at Costco where COVID-19 vaccinations are occurring a prescription but no testing is occuring, and is in and out in two minutes.	The person picks up at the same Costco 50 feet away from the butcher, and waits 20 minutes on a crowded line.

Rather, Koshy Kosky and others looked at OSHA Region 2, covering New York and New Jersey. In addition to noting how lack of an emergency temporary standard and misinformation hindered the ability to protect workers, wrote "During emergencies overwhelming local and state level resources, acting within the bounds of federalism, the USDOL-OSHA can be a critical resource providing technical information from an expert perspective of occupational safety and health and creating a single uniform approach to a universal hazard during a national emergency. Within the National Response Framework (NRF) Worker Safety and Health Support Annex, the USDOL-OSHA can lend its expert assistance and support lower jurisdictions assisting essential workers, first responders and first receivers. Despite the fact the Office of the

Secretary of Health and Human Services (HHS) declared a public health emergency on January 31, 2020, a NRF mechanism through NIMS, however, was never triggered."53 Such a trigger was needed, as was respiratory protection which this rule proposes.⁵⁴

Feasibility

As OSHA has declared it feasible to implement in healthcare industries the standard, I would see no reason why this could not be done in all industries, with the notable exception of installing physical barriers. But for reasons states in a subsequent ground, such physical barriers are frequently harmful and should be removed in many cases. To the extent that cost benefit is considered, I do not see why the analysis differs for healthcare. Furthermore, much of the feasibility of the guarantine or vaccination expenses can be granted by Public Law 117-2.

In addition, the OSHA economic analysis as to why healthcare workers should be protected shows the benefits outweigh the cost. And while that is not needed, what is the harm in applying that to all workers? So what differs? The benefits favor testing which can alleviate broader closures⁵⁵ and the benefits of elimination over moderate restrictions over a substantial period of time are clear.⁵⁶ The economic benefits of vaccination are indisputable, and with the tax credits available, what is the issue extending these protections for all workers?

However, no cost effectiveness analysis on some proposals has been done. That is expected, because the OSHA decision would mean having to do analysis for items which the CDC recommends for reasons to be described later, are related to the mode of transmission⁵⁷.

⁵³ https://doi.org/10.1016/j.ssci.2021.105193

⁵⁴ While I do not suggest mandating in most contexts full Part 134 protections, which is why I suggested an alternate standard, all workers need protection.

⁵⁵ https://bit.lv/35kli6z

⁵⁶ https://doi.org/10.1016/S0140-6736(21)00978-8

⁵⁷ Specific areas in particular that a cost effectiveness analysis would be appropriate include ventilation, physical barriers, and cleaning / disinfecting. While I do not believe they are needed, given this is a major rule, it should be done.

Workers Compensation

OSHA cites workers compensation in its reasoning. However, using the National Conference of State Legislatures, many states which acted in programs limited to certain workers. New Hampshire limited this to first responders. Alaska, Michigan, Minnesota, North Dakota (included developmental disabilities or life skills and transition), Utah, and Washington limited this to healthcare worker and first responders. Florida applied to first responders, child safety investigators, corrections, national guard responding, and state employed healthcare workers. Illinois and New Jersey protected all essential workers, while Kentucky and Vermont protected large groups of essential workers. New Mexico applied this to state workers and volunteers. Virginia protected healthcare workers.

Given worker compensation data cannot be relied on to establish why the rule is limited to healthcare workers, it does not refute my point. That healthcare workers and first responders are favored by workers compensation, given the fact that occupation as a healthcare worker cannot be used to determine risk, should be another reason to make apparent the scope is Insufficent and all workers need protection.

Enforcement

OSHA states that based on a review of the evidence:

"Based on its thorough review of OSHA's existing approach to protecting employees from COVID-19, OSHA finds that existing OSHA standards, the General Duty Clause, and non-mandatory guidance issued by OSHA are not adequate to protect healthcare employees from COVID-19. Similarly, the numerous guidance products published by other entities, such as CDC, are not sufficiently effective at protecting these employees because such guidance is not enforceable and there is no penalty for noncompliance. OSHA has determined that each of these tools, as well any combination of them, is inadequate to address COVID-related hazards in the settings covered by this standard, thereby establishing the need for this ETS."

⁵⁸ https://www.ncsl.org/research/labor-and-employment/covid-19-workers-compensation.aspx

Yet OSHA refuses to consider this has occurred not just in healthcare, but in many industries. In fact, what is happening is that, especially outside of healthcare, states are removing restrictions on businesses other than the fact that states have imposed vaccine passport bans on businesses, including Alabama, Florida, Iowa, Montana, South Carolina, and Texas. In fact, states have lifted or banned mask mandates that have often exempted healthcare facilities, and this also occurred with regard to vaccination mandate prohibitions.

"This inadequacy has also been reflected in the number of states and localities that have issued their own mandatory standards in recognition that existing measures (including non-mandatory guidance, compliance assistance, and enforcement of existing standards) have failed to adequately protect workers from COVID-19. While these state and local requirements may have had positive effects where they have been implemented, they are no replacement for a national standard that would establish definitively that COVID-19 safety measures are no longer voluntary for the workers covered by this standard. Without a national standard, the patchwork of inconsistent requirements has proven both ineffective at a national level and burdensome to employers operating across jurisdictions, increasing compliance costs and potentially limiting the ability to implement protective measures at scale."

To the extent that OSHA has been saying that these sorts of complaints come from healthcare, such as not quarantine it declines to disclose other workplace complaints here to distinguish why only healthcare is covered. But it gives several reasons why. And why would they not apply equally to healthcare and non healthcare employers is arbitrary?

"First, most of the safety measures⁵⁹ known to reduce the hazard of COVID-19 transmission are not explicitly required by existing standards: none expressly requires measures such as facilitating vaccination, facemasks, physical distancing, physical barriers, cleaning and disinfection (when appropriate), improved ventilation to reduce virus transmission, isolation of sick employees, minimizing exposures in the highest hazard settings such as aerosol-generating procedures on patients with suspected or confirmed COVID-19, patient screening and management, notification to employees potentially exposed to people with COVID-19, or training on these requirements."

The reason cited is "the standard does not require disinfection of potentially contaminated surfaces nor does it speak to the level or frequency with which cleaning is

37

⁵⁹ This assumption that these safety measures reduce the hazard of COVID-19 is inaccurate and constitute additional grounds why the emergency temporary standard needs to be modified. Most of these rules come from the failure to accurately define the mode of transmission.

required to protect against an infectious disease hazard like COVID-19." This example specifically lacks merit, because such sanitization is useless at stopping the predominant, if not exclusive, mode of transmission of the virus.

The second issue is the layering of protections is critical, but layering for healthcare workers' protections while other workers lacking access to vaccines are left unprotected against more dangerous variants. Instead of distinguishing by industry, when aerosol generating medical procedures, as later will be described, are useless, and spread without symptoms is critical, distinctions should have a rational basis.

The third issue is the standards are inadequate. Rather, the focus should be on the actual statement "disinfection is an *important* precaution against COVID-19 transmission" is a false statement. The word in italics should be replaced by useless, as disinfection is all but useless at stopping SARS-CoV-2 transmission.

The next issue is that "Fourth, the existing recordkeeping and reporting regulations are not adequate to help the employer or the agency assess the full scope of COVID-19 workplace exposures." But this would apply equally to non healthcare workplaces.

The CDC sites guidance which I have taken notice of 60.



The January 29 guidance includes

plexiglass that traps aerosols and hygiene theater. The references to the World Health Organization guidance that included guidance that respirators are not needed outside of supposedly⁶¹ aerosol generating medical procedures.

One additional layer that should be considered is that a COVID-19 plan is only being required by healthcare workplaces. To the extent that a model program should be used, the information being published by Project Firetline should not be utilized without modification due to the continued emphasis on respiratory droplets, which is an extremely misleading term, for reasons described thoroughly in ground two⁶². In addition, Project Firetline tries to explain without any evidence a variety of precautions such as why eye protection, which is merely precautionary, and contact precautions are needed, why the hygiene theater of disinfecting is

⁶⁰ https://twitter.com/universalmaski2/status/1355296272551391233?s=21

⁶¹ As will be clear later, the concept of aerosol generating medical procedures is a myth.

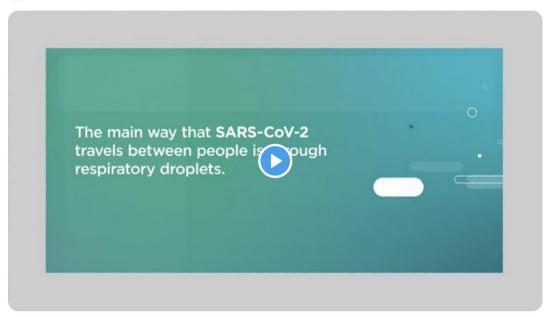
⁶² https://twitter.com/amermedicalassn/status/1403562706670690305?s=21

needed, and other misinformation. They have deliberately refused to use the term "aerosol" in their videos posted by Dr. Abby Carlson.



New @CDC_Firstline video examines respiratory droplets and how they can spread the virus that causes #COVID19.

facebookwatch



Respiratory Droplet Basics

When you understand what respiratory droplets are, you can better protect your patients, your coworkers, and yourself from COVID-19 – that's why you...

View on www.facebook.com

12:00 AM · 6/12/21 · Sprinklr

Actual complaints

The OSHA guidance also ignores that workplaces have been reported, and released via the COVID OSHA bot. And the cases alleged frequently are serious, frequently not resulting in actual work. Here are some recent examples (based on some complaints) that were reported within a 24 hour period on June 13, 2021 on this website. Here are three examples, and plenty of others exist. The most egregious which is common to see are actually not quarantining.

Some whistleblower data does not show whether or not cases are coming from healthcare or non healthcare establishments.

1. Dated April 6, 2021, a clothing store does not require masks.



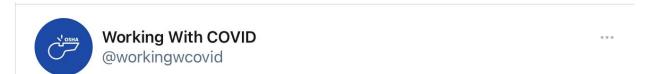
Report from an employee at J.C. PENNEY Corporation, Inc. in PLANTATION, FL on Apr 06, 2021: "The employer does not follow CDC;s guidelines to prevent the spread of the virus COVID-19, such as...

Report from an employee at J.C. PENNEY Corporation, Inc. in PLANTATION, T. on Apr 06, 2021: "The employer does not follow CDCis guidelines to prevent the spread of the virus COVID-19, such as enforcing the use of face covering from employees/customers of the beauty salon. A possible violation of the OSH Act of 1970, General Duty Clause Section 5(a)(1)."

Complaint Reported to OSHA See: @WorkingWCovid

2:53 AM · 6/13/21 · covid osha bot

2. Dated April 12, 2021: A restaurant did not enforce masks and 6 employees tested positive.



Report from an employee at Stoney Reer Restaurant in TROY on Apr 12, 2021: "At least 6 employees have tested positive for COVID and no mask rule is being enforced at this facility."

8:23 AM · 6/13/21 · covid_osha_bot

3. Dated April 22, 2021: A manufacturing plant has five confirmed places and they don't do deep cleaning and employees feel this caused an outbreak.⁶³



Report from an employee at Argent International in WESTLAND, MI on Apr 22, 2021: "Since the last week of March, they have been experiencing an outbreak of COVID-19 cases in the manufacturing plant....

Report from an employee at Assemble metional in WESTLAND, MI on Apr 22, 2021: "Since the last week of March, they have been experiencing an outbreak of COVID-19 cases in the manufacturing plant. There have been 5 confirmed cases of COVID-19 infection cases. This company doesn't properly deep clean the plant and employees feel this is a factor of the outbreak."

7:23 AM · 6/13/21 · covid_osha_bot

An informational approach, which OSHA has decided arbitrarily and capriciously to implement for non-healthcare workers, ignores that it is not simply asymptomatic information that needs to be disproved. Testimony before the North Dakota legislature on why mask mandates should be prohibited⁶⁴ which says that masks impair breathing are acting as cognitive

⁶³ Deep cleaning does not stop cases.

⁶⁴ https://twitter.com/universalmaski2/status/1397002073162620935?s=21

dissonance⁶⁵ and trying to mislead the legislature. The claim that medical evaluations are needed for this reason is just one example.

Ground 2. Denial that COVID is Airborne

The CDC on page 200 of the preamble makes the following statement: "SARS-CoV-2, the infectious agent that causes COVID-19, is considered to be mainly transmissible through the droplet route in most settings (though there is evidence for airborne transmission as noted throughout this preamble)."66 This sentence is blatantly false and should be immediately retracted for the reasons described in this ground.

How the virus transmits is a significant reason as to why the emergency temporary standard is unacceptable. As the person who caused the hashtag #COVIDisAirborne to go viral, it does not represent anything less than the science on transmission, the non pharmaceutical interventions that need to be taken, and the hygiene theater needs to stop. Consequently, I have a significant interest in the fact that OSHA is not correctly defining the mode of transmission of the virus.

Instead of looking at the science, OSHA takes a precautionary approach on droplet and contact transmission taken by others. OSHA claims "At this time, it is not clear what proportion of SARS-CoV-2 infections are acquired through contact transmission and infections can often be attributed to multiple transmission pathways." Dr. Jose-Luis Jimenez makes it clear that without any evidence that aerosols are not the overwhelming method of transmission, then

66 https://www.osha.gov/sites/default/files/covid-19-healthcare-ets-preamble.pdf#page200

⁶⁵ The Role of Cognitive Dissonance in the Pandemic - The Atlantic

contact transmission is presumed as a route.67



3/ And probably we are being charitable by saying only "dominant." Can't find any real evidence that airborne is not **99**%. Airborne can explain all the epidemiological patterns, while large droplets and fomites can't, and they are pathetically lacking ev.

¶ Jose-Luis Jimenez ¶ @jljcolorado · 5/6/21

Serious question: do we have any evidence to suggest that airborne is not ~100% of SARS-CoV-2 transmission?

Plausibly there are likely small contributions from droplets (if someone coughs on someone's face) or surfaces (rare cases)....

Show this thread

3:27 PM · 5/8/21 · Twitter Web App

For example, OSHA in explaining the multiple modes of transmission, although only one of them is relevant to COVID-19, says "Thus, the CDC recommends respiratory protection, isolation gowns, and gloves in healthcare settings to protect workers in those settings." It is important to note that a respirator is an airborne precaution, eye protection is a droplet precaution (with a mask) and gloves with gowns are contact precautions. In addition, the reuse of contact precautions for multiple patients is absolutely unacceptable.

⁶⁷ https://twitter.com/jljcolorado/status/1391112624142704651?s=21

As explained in this video, "the precautionary principle was made for COVID-19 You wait until the science is more solid to decide whether you can lower precautions, be we [in Canada] didn't do that"⁶⁸ The CBC noted China did and other places in Asia did. Yet this guidance does not accept the precautionary principle on aerosols, and when the evidence has become solid on the lack of spread by droplets and vomited, does not roll back those precautions in healthcare to account for the low risk. China imposed early on airborne precautions as the CBC describes.⁶⁹ In Ontario, Canada, the failure to follow this principle resulted in nearly half of SARS cases being among healthcare workers.⁷⁰

As CBC describes, and the Center for Disease Control and Prevention mostly used (they moved to surgical masks, except for certain medical procedures, which was changed after the casualties in New York and actions of the New York State Nurses Association, and its executive director Pat Kane.⁷¹ And it is not like you can even listen to your longest serving director, Dr. David Michaels.⁷²

-

⁶⁸ https://www.cbc.ca/i/caffeine/syndicate/?autoPlay=true&mediald=1910139971514

⁶⁹ The reality is that China used full body, in my view double layered PPE, to provide protection from all modes, similar to Ebola (but note the lack of a PAPR with a PAPR hood, being used, which would be appropriate in lieu of a N95 and goggles in my view).

https://www.reliasmedia.com/articles/102180-sars-lesson-err-on-side-of-infection-control-precautions-to-protect-hcws

 $[\]underline{https://www.nysna.org/position-statement-infection-control-protocols-and-shortage-respirators-and-person} \\ \underline{al-protective\#.YMvifi33bmo}$

https://twitter.com/drdavidmichaels/status/1405699384143122432?s=21



I'm surprised to see such a clear assertion of the importance of aerosol transmission.

Is it possible that EPA is allowed to issue guidance without having it reviewed (and edited) by CDC.



Yet the Environmental Protection Agency, while significantly better compared to the CDC guidance, is not being paid attention to.

"Spread of COVID-19 occurs via airborne particles and droplets. People who are infected with COVID can release particles and droplets of respiratory fluids that contain the

SARS CoV-2 virus into the air when they exhale (e.g., quiet breathing, speaking, singing, exercise, coughing, sneezing). The droplets or aerosol particles vary across a wide range of sizes – from visible to microscopic. Once infectious droplets and particles are exhaled, they move outward from the person (the source). These droplets carry the virus and transmit infection. Indoors, the very fine droplets and particles will continue to spread through the air in the room or space and can accumulate.

Since COVID-19 is transmitted through contact with respiratory fluids carrying the infectious SARS-CoV-2 virus, a person can be exposed by an infected person coughing or speaking near them. They can also be exposed by inhaling aerosol particles that are spreading away from the infected person. Transmission of COVID-19 from inhalation of virus in the air can occur at distances greater than six feet. Particles from an infected person can move throughout an entire room or indoor space. The particles can also linger in the air after a person has left the room – they can remain airborne for hours in some cases. Someone can also be exposed via splashes and sprays of respiratory fluids directly onto their mucous membranes. Spread may also sometimes occur through contact with contaminated surfaces, though this route is now considered less likely."

Possibly, the CDC, who uses the following statement currently, could be more accurate. But of the three ways they describe spread, one is misstated "Breathing in air when close to an infected person who is exhaling small droplets and particles that contain the virus.". Another misunderestimated the size "Having these small droplets and particles that contain virus land on the eyes, nose, or mouth, especially through splashes and sprays like a cough or sneeze." The third way assumes contact transmission is occuring. "Touching eyes, nose, or mouth with hands that have the virus on them." But none of these are accurate descriptions. The Centers for Disease Control and Prevention Healthcare Infection Control Practices Advisory Committee Guidelines for Environmental Infection Control in Health-Care Facilities, updated in July of 2019, references modes of transmission such as air or water, yet explains air with droplets based on five microns."

In fact, the current guidance from the Center for Disease Control and Prevention describes one mode of transmission, through respiratory fluid, which occurs in three ways. The scientific never distinguishes the relative likelihood of each of the ways of transmission that are described, except to say that surfaces are not substantially contributing to new cases⁷⁵. Given

⁷³ https://downloads.regulations.gov/OSHA-2020-0004-0910/content.pdf

⁷⁴ https://downloads.regulations.gov/OSHA-2020-0004-0587/content.pdf

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html

the need to prioritize based on risk, and given the evidence overwhelming points towards inhalation as being the dominant, if not exclusive, way, of transmission, with *no* citation to any mode of transmission *except* inhalation, that guidance provided nothing more than scintilla on whether any way besides inhalation exists. Given the tremendous amount of research that has occured over the past year, this absence of evidence suggests the evidence is absent of alternate ways of transmission besides inhalation.

Respiratory Droplets

Yet the Environmental Protection Agency use this term droplets incorrectly. On transmission, OSHA states on page 62 of the preamble, "According to the CDC, the primary way the SARS-CoV-2 virus spreads from an infected person to others is through the respiratory droplets that are produced when an infected person coughs, sneezes, sings, talks, or breathes (CDC, May 7, 2021). Infection could then occur when another person breathes in the virus. Most commonly this occurs when people are in close contact with one another in indoor spaces (within approximately six feet for at least fifteen minutes) (CDC, May, 2021)."

Respiratory droplets which are described in the Journal of Hospital Infection as follows: "Respiratory droplets with a wide range of diameters can remain suspended in the air and be considered airborne. The sizes of exhaled particles cover a continuum (Figure 1). One cannot definitively specify a cut-off for the diameter of airborne particles because the ability of a particle to remain suspended depends on many factors other than size, including the momentum with which they are expelled, and characteristics of the surrounding air flow (speed, turbulence, direction, temperature and relative humidity)."⁷⁶ However, the CDC refuses to accept this fact.

⁷⁶ TY - JOUR T1 - Dismantling myths on the airborne transmission of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) AU - Tang, J.W. AU - Bahnfleth, W.P. AU - Bluyssen, P.M. AU - Buonanno, G. AU - Jimenez, J.L. AU - Kurnitski, J. AU - Li, Y. AU - Miller, S. AU - Sekhar, C. AU - Morawska, L. AU -

Marr, L.C. AU - Melikov, A.K. AU - Nazaroff, W.W. AU - Nielsen, P.V. AU - Tellier, R. AU - Wargocki, P. AU - Dancer, S.J. Y1 - 2021/04/01 PY - 2021 N1 - doi: 10.1016/j.jhin.2020.12.022 DO -

^{10.1016/}j.jhin.2020.12.022 T2 - Journal of Hospital Infection JF - Journal of Hospital Infection SP - 89 EP

As a consequence, the term "respiratory droplets" should be removed from the OSHA guidance to protect workers.

The guidance immediately thereafter makes the claim that "The best available current scientific evidence demonstrates that the farther a person is away from the source of the respiratory droplets, the fewer infectious viral particles will reach that person's eyes, nose, or mouth because gravity pulls the droplets to the ground." But gravity does not quickly pull the aerosols produced when a person speaks to the ground within a matter of seconds as stated here. As stated in Question 2.5 on the website tinyurl.com/FAQ-aerosols, written by aerosol scientists, including Dr. Jose-Luis Jimenez, a professor of Chemistry at the University of Boulder and a highly cited researcher with 44,900 citations⁷⁷ and a h value of 110.

2.6 But many documents define aerosols as smaller than 5 µm and ballistic droplets as larger than that size. Is that incorrect?

Yes, it is a **huge** error, which has been repeated by major institutions and countless scientific papers for at least 3 decades. Several authors of these FAQs are working on a manuscript documenting how and when the error occurred and what caused it, which will be available as a preprint in the near future.

The real boundary between ballistic droplets and aerosols is $\sim 100 \ \mu m$, as discussed in the recent NASEM workshop. This has been known at least since Wells (1934). Or the slide below, from the CDC website, that shows that aerosols $\sim 10 \ \mu m$ in size can stay in the air for 8 minutes, and thus do not fall to the ground in a few seconds. At typical indoor air speeds of 0.1 m/s, a 10 μm aerosol can travel $\sim 50 \ m$.

But for ballistic droplets to have enough inertia to be able to reach others when talking, they need to be $\geq 300 \ \mu m$ (see also here). Motion is determined by mass (F = ma), and WHO and others are making an error of a factor of 200000 in the mass of ballistic droplets! An important consequence is that ballistic droplets are far less numerous than they assume, which greatly reduces the probability of infection by ballistic droplets when talking.

^{- 96} VL - 110 PB - Elsevier SN - 0195-6701 M3 - doi: 10.1016/j.jhin.2020.12.022 UR - https://doi.org/10.1016/j.jhin.2020.12.022 Y2 - 2021/06/10 ER -

⁷⁷ Jose L Jimenez | Publons

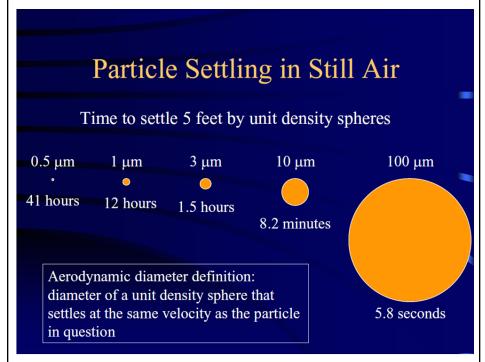


Figure: time for particles of different sizes to settle to the ground in still air, from the height of a person. From the CDC "Aerosols 101" presentation.

<u>Dr. Anthony Fauci has acknowledged this error</u> on 10-Sep-2020, stating: "The aerosol physicists have approached us now have told us that we really have been wrong over many many years and that particles greater than 5 microns still stay in the air much much longer than we had thought, when we used to say empirically greater than 5 microns it drops to the ground, and 5 microns this might be aerosolized, we know now this just not the case."

Yet OSHA claims this when droplets three microns in size take a hour and a half to drop that "Once respiratory droplets are exhaled, CDC explains, they move outward from the source and their concentration decreases through fallout from the air (largest droplets first, smaller later) combined with dilution of the remaining smaller droplets and particles into the growing volume of air they encounter (CDC, May 7, 2020)."

To the extent that on page 200 "Droplet transmission occurs by the direct spray of large droplets onto conjunctiva or mucous membranes (e.g., the lining of the nose or mouth) of a susceptible host when an infected person sneezes, talks, or coughs," the talking is

inappropriately added as the particle size is much smaller than the cutoff of 100 microns. While talking is of critical importance to the spread of the virus,⁷⁸ by mischaracterizing it as droplets, OSHA is taking insufficient precautions. On page 226 of the preamble, OSHA makes clear that it views respiratory droplets as referring to a mode of transmission. "[I]nfections occur mainly through exposure to respiratory droplets (referred to as droplet transmission)…"

Instead of looking at meat packing plants in Germany and a restaurant in China⁷⁹ without accepting that these scenarios have occurred in the United States, applying this to the known outbreaks in the United States. The OSHA regulation does not reference the exposures in meat packing plants which have the close contact, low temperatures, poorly circulated air, and other factors to explain high aerosol spread. Four workers died and hundreds were exposed at a meatpacking plant, according to an article by USA Today; the guidance does not refer to this⁸⁰. Although dozens of meat packing plants closed, healthcare is focused on because of symptomatic cases.

As used in a recently published paper on why airborne precautions are needed in Australia, when the virus transmits through the same mode in Australia as elsewhere⁸¹, "The experience of SARS and Middle East respiratory syndrome (MERS) should also have alerted us to the likelihood that SARS-CoV-2 could also be transmitted via the airborne route. It did alert some. China, South Korea and Vietnam adopted airborne precautions in early 2020."⁸²

⁷⁸ Stadnytskyi, V, Anfinrud, P, Bax, A. Breathing, speaking, coughing or sneezing: What drives transmission of SARS-CoV-2?. J Intern Med 2021; 00: 1– 18. https://doi.org/10.1111/joim.13326

⁷⁹ The Guangzhou China study definitely ruled out both fomite and close contact transmission. Evidence for lack of transmission by close contact and surface touch in a restaurant outbreak of COVID-19 Zhang, Nan et al. Journal of Infection, Volume 0, Issue 0 https://www.journalofinfection.com/article/S0163-4453(21)00273-5/fulltext

⁸⁰ COVID meatpacking deaths, illnesses show Triumph Foods missteps (usatoday.com)

⁸¹ If anything, due to the lower case rates in Australia, the evidence their is easier to trace.

⁸² Hyde, Z., Berger, D. and Miller, A. (2021), Australia must act to prevent airborne transmission of SARS-CoV-2. Med J Aust. https://doi.org/10.5694/mja2.51131

Accordingly, the term respiratory droplets should be removed from the reasoning behind the rule in its entirety⁸³.

Distance

Yet OSHA cites that SARS-CoV-1 and MERS transmitted via droplet transmission. Yet the CDC website for air transit of MERS calls for airborne protections⁸⁴ for this virus.

Middle East Respiratory Syndrome (MERS) MENU > **General Considerations** Ground/In-Flight Emergency • MERS patients should be transported on a dedicated AMT mission **Procedures** with the minimum number of crew members. Whenever possible, no passengers or patients who do not have MERS should be on board. If a parent is accompanying a sick child, the parent should use personal protective equipment (PPE) during transport as described in "Infection Control," below. • If possible, a primary caregiver should be assigned to the MERS patient. • The primary caregiver is typically designated piror to transport, based on the patient's needs for care, and who is qualified to meet those needs. A member of the AMT crew would usually be the primary caregiver, but there might be situations where a non-crew physician needs to provide care. • The number of caregivers should be limited to those required to provide essential care during the trip. • Infection control should involve the following matrix of measures: o Source control (i.e., confining the spread of respiratory secretions at the patient level) o Engineering controls to limit airborne dissemination of the virus • Locate patient as near as practical to the aircraft exhaust or the exhaust of the containment within which the patient is housed. The isolation perimeter should be at least 6 feet away from the patient. • Use of PPE as outlined below • Use of safe work practices to prevent exposure

The size and type of aircraft will influence the extent to which these measures can be implemented. When available, use of a portable isolation unit may be considered.

- Consideration must be given to the need for "PPE breaks" during long trips. Removal of respiratory protection is unavoidable. An area at the front of the plane (or "upwind" from the patient, depending on cabin air flow), as far as possible from the patient, should be designated for this purpose.
- International transport of patients with MERS should be coordinated with public health authorities at origin and destination.

Physical distancing works, not because the droplets drop to the ground, but because of dilution. As stated in question 3.2 on this same page:

"Like other recommendations, these social distance rules will reduce risk, but not eliminate it. The 6 feet rule is based on the idea that large ballistic droplets fall to the ground within 6 feet,

⁸³ The actual rule does not use the terminology respiratory droplet.

⁸⁴ https://www.cdc.gov/coronavirus/mers/hcp/air-transport.html

although they can travel farther in a cough or sneeze, <u>up to 28 ft</u> (8.5 m). The 6 feet rule also helps with aerosols that do not settle to the ground because they are most concentrated close to the person who released them, like cigarette smoke is most concentrated close to the smoker. Dilution over distance is the main reason why social distance reduces transmission of COVID-19."

Instead, without evidence that droplet transmission causes the spread of any disease, they accept evidence from early 2020 as conclusive. When the Center for Disease Control and Prevention says "Current data suggest that close-range aerosol transmission by droplet and inhalation, and contact followed by self- delivery to the eyes, nose, or mouth are likely routes of transmission" it makes me wonder with chemistry professor at Duke Kasibhatlia does this mean "having mainly acknowledged virus inhalation after it has been ballistically deposited at

_

⁸⁵ https://downloads.regulations.gov/OSHA-2020-0004-0734/content.pdf



88/ In reality, **droplet** infection is a house of cards.

From Y. Li's review of the scientific literature: It has NEVER been demonstrated directly for **ANY disease** in the history of medicine!

[If you have a paper that proves otherwise, pls send it to me] sciencedirect.com/science/articl...

Reviewing the literature on large droplet transmission, one can find no direct evidence for large droplets as the route of transmission of any disease.

Surfaces

Yet, OSHA still mentions surface cleaning without considering the barriers to this mode. For example, coughs and sneezes with no mention of masks was cited, even though last updated in April of 2020⁸⁷. Relying on experimental conditions, as opposed to the studies at the University of Florida where a virus was taken from the air in a patient's room, is not comparable. When virus has been found in aerosols for many diseases⁸⁸, the refusal to accept these limitations, combined with the fact that it takes a long time for aerosols of a few microns to settle, makes the argument for contact transmission more unclear.

⁸⁶ https://twitter.com/prasadkasibhat1/status/1384556930841026560?s=21

⁸⁷ https://www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html

⁸⁸ https://doi.org/10.1016/S2213-2600(20)30323-4

"However, experimental conditions on both porous and non-porous surfaces do not necessarily reflect real-world conditions, such as initial virus amount (e.g., viral load in respiratory droplets) and factors that can remove or degrade the virus, such as ventilation and changing environmental conditions. They also do not account for inefficiencies in transfer of the virus between surfaces to hands and from hands to mouth, nose, and ey. In fact, laboratory studies try to optimize the recovery of viruses from surfaces (e.g., purposefully swabbing the surface multiple times or soaking the contaminated surface in viral transport medium before swabbing)."89

Aerosol Generating Medical Procedures

Dr. Kimberly Prather, who is a distinguished professor at the University of California San Diego and is the Director of the Center for Aerosol Impacts on Chemistry of the
Environment, said that the line between droplets and aerosols should be at 100 microns at the
National Academy for Science, Engineering, and Medicine in August of 2020 says the term AGP

89 https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/surface-transmission.html

57

means aerosol generating person⁹⁰.



Amal #COVIDisAirborne HEPA/ventilate n95+ @Amal4S... · 4/21/2 When will we just say breathing is an aerosol generating medical procedure?

Q 1

17

♡ 3

1



Kimberly Prather, Ph.D. @kprather88

Replying to @Amal4Solutions and @ariccio

AGP = **Aerosol generating** person.

Translate Tweet

4:11 PM · 4/21/21 · Twitter Web App

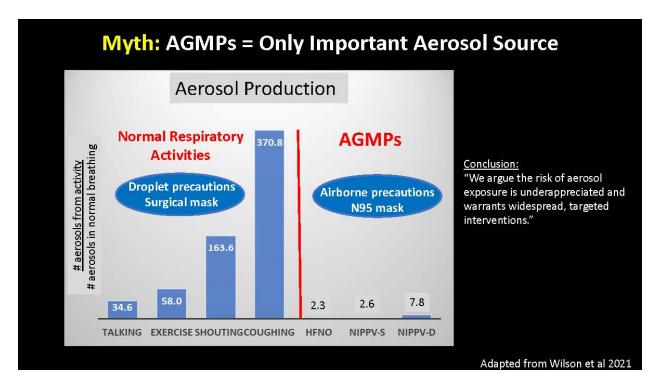
3 Retweets 5 Likes

Rather than focus on what matters for aerosols, the focus is on SARS-CoV-1 and what was thought to be aerosol generating. As published in *Anaesthetisia* "Our data suggest aerosol generation from the gas flows and pressures delivered by respiratory therapies were unlikely to be the primary cause of the observed association between their use and transmission of disease during the SARS-CoV-1 epidemic, which underpins the current 'aerosol-generating procedure' model."⁹¹ As can be seen from this photo adopted by Dr. Kimberly Prather, aerosols are what matters and aerosol generating medical procedures⁹²

90 https://twitter.com/kprather88/status/1384962909000937482?s=21

⁹¹ Wilson, N.M., Marks, G.B., Eckhardt, A., Clarke, A.M., Young, F.P., Garden, F.L., Stewart, W., Cook, T.M. and Tovey, E.R. (2021), The effect of respiratory activity, non-invasive respiratory support and facemasks on aerosol generation and its relevance to COVID-19. Anaesthesia. https://doi.org/10.1111/anae.15475

⁹² The guidance uses aerosol generating procedures to refer to these sorts of medical procedures.



Instead of relying on a presentation by an aerosol expert, Dr. Linsey Marr⁹³, OSHA decided to rely on observations from the 2002-2003 SARS epidemic when they differ in one key aspect, which is <u>asymptomatic spread</u>. SARS-CoV-1 was not asymptomatic to the extent that SARS-CoV-2 is, which limits the comparisons that can be made in terms of what should be deemed aerosol generating for purposes of the virus.

Rather, OSHA relied on the Respiratory Protection Effectiveness Trial, relying on the actual science which in the same paper shows intubation and extubation, which have been defined as risky, are less dangerous than a cough is. *Anaesthesia* also published this research showing that intubations are not as dangerous as people think. Rather, coughing is more dangerous in terms of producing aerosols.⁹⁴ Yet this article shows that a cough during extubation is less risky than a cough outside of extubation. The characteristic of noninvasive ventilation as aerosol generating is contrary to the evidence. Instead of assuming what is

⁹³ https://drive.google.com/file/d/1dMhdEUvRZizmRod7AvJ9Yx1iNiTSa-nV/view

⁹⁴ Brown, J., Gregson, F.K.A., Shrimpton, A., Cook, T.M., Bzdek, B.R., Reid, J.P. and Pickering, A.E. (2021), A quantitative evaluation of aerosol generation during tracheal intubation and extubation. Anaesthesia, 76: 174-181. https://doi.org/10.1111/anae.15292

dangerous, one study shows "It is important to note that this [CPAP] generates flows significantly less than a cough.".95 96 And another published from Australia97 comments that except for intubation, where the studies are of low quality, these other procedures are of very low quality and have confounding factors, suggesting that aerosol generating medical procedures designation is merely precautionary.

The claim that healthcare workers were exposed to aerosol generating medical procedures is unsupported by the evidence. In the United Kingdom, where respiratory protection was only used for the intensive care unit and aerosol generating medical procedures, those units had considerably lower risks.⁹⁸

The data supports that speech driven aerosols are what is driving the spread of the virus, especially indoors and unmasked. 99 By looking at autopsies, where people are mute, what should be evident is that it is not an aerosol generating procedure. Consequently all postmortem procedures should be categorically categorized as non aerosol generating. OSHA should not look to the California aerosol transmitted disease standards a standard without considering that high hazards procedures under the California standard overlap with many aerosol generating procedures under the proposed OSHA standard.

Even a bronchoscopy only generates aerosols with nebulized medication administration, which is an aerosol generating medical procedure. But it is clear that aerosols generated during a nebulized medication administration are the nebulized medications, since the medications,

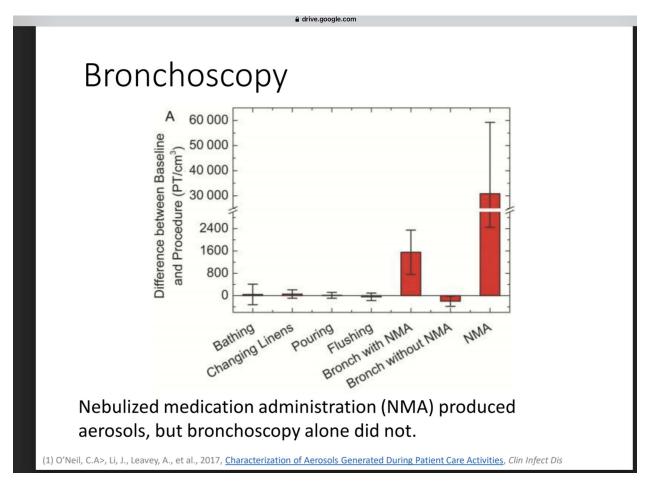
95 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6248660/?report=classic

⁹⁶ Wilson NM, Norton A, Young FP, Collins DW. Airborne transmission of severe acute respiratory syndrome coronavirus-2 to healthcare workers: a narrative review. Anaesthesia. 2020 Aug;75(8):1086-1095. doi: 10.1111/anae.15093. Epub 2020 May 8. PMID: 32311771; PMCID: PMC7264768.

 ⁹⁷ Harding H, Broom A, Broom J. (2020, June 1) Aerosol-generating procedures and infective risk to healthcare workers from SARS-CoV-2: the limits of the evidence. J Hosp Infect. 2020;105(4):717-725. doi:10.1016/j.jhin.2020.05.037 https://downloads.regulations.gov/OSHA-2020-0004-0802/content.pdf
 ⁹⁸ Differential occupational risks to healthcare workers from SARS-CoV-2: A prospective observational study | medRxiv

⁹⁹ Stadnytskyi, V, Anfinrud, P, Bax, A. Breathing, speaking, coughing or sneezing: What drives transmission of SARS-CoV-2?. *J Intern Med* 2021; 00: 1–18. https://doi.org/10.1111/joim.13326

once nebulized, are aerosols.



Based on these characteristics, it can be supposed that the other unnamed non dental procedures do not increase breathing rates sufficiently to produce more aerosols, the procedure that OSHA is referring to.

- Opening suctioning is in many cases disconnecting from a ventilator, and the disconnection mode producing additional infectious aerosols is incredible.
- 2. Sputum induction involves inhaling a nebulized item, and as nebulizers don't nebulize breathed air, this would not be rationally aerosol generating. Any link to turbelocous 100, when the reason turbelocous patients are more infectious is because the duration of infectiousness is lengthy compared to SARS-CoV-2.

. . .

¹⁰⁰ https://www.health.nsw.gov.au/Infectious/tuberculosis/Pages/tb-sputum-induction-guidelines.aspx

- 3. In any event, cardiopulmonary resuscitation or manual ventilation don't involve speaking, so why would they be more dangerous than supplemental oxygen, intubation, extubation, or an automated ventilator?
- 4. An oscillating bone saw, used during a joint surgery, would not seem to produce aerosols, unless a specific location relevant to aerosols is involved. And in any event, would those aerosols contain infectious SARS-CoV-2 is the relevant question.

One fact is that the non-dental aerosol generating medical procedures appear to be occurring when patients are in critical care, or late in the disease process, for SARS-1. Based on the differences in transmission of the virus SARS-1 and SARS-2, that distinction explains why these sorts of procedures were deemed aerosol generating. But it is not reasonable to accept that a procedure which was defined as aerosol generating because it signaled patients were in critical care status for a virus¹⁰¹ where transmission occurred late in the course of illness and apply that to a subsequent virus¹⁰² that has been extensively studied to a far greater degree than the earlier virus.

For dental procedures, since breathing is unimpaired, the concept of aerosol generating procedures makes some sense, not just ultrasonic scalers; high-speed dental handpieces;

62

¹⁰¹ SARS-CoV-1

¹⁰² SARS-CoV-2

air/water syringes; air polishing; and air abrasion. But drills are also listed 103.

Dental AGPs

Mainly on the basis of culturable bacterial counts:

- Ultrasonic scaler
- Air-driven high-speed handpiece
- Air polisher
- Air/water syringe
- Drills, wet and dry
- Air abrasion







(1) Harrel, S.K., Molinari, J., 2004, <u>Aerosols and splatter in dentistry</u>, *JADA* (2) Miller, R.L., 1995, <u>Characteristics of blood-containing aerosols generated by common powered dental instruments</u>, *Am Indust Hyg Assoc J*

But why would that be? My guess is that dental aerosols are in addition to breathing and other aerosol generating medical procedures are not. As a consequence, using the term dental procedures and aerosol generating persons should be done in the guidance, and the concept of aerosol generating medical procedures should be discarded entirely. But although dental procedures might seem to require respirators, I believe engineering can be used in lieu of respiratory protection in the dental industry to protect from dental aerosols.¹⁰⁴

One example of a procedure that a study included in the emergency temporary standard references was on endoscopy. Yet that found body mass index and burping to be significant drivers of aerosols. Burping would make sense, since it is very similar to a cough. But this rule

¹⁰³ https://drive.google.com/file/d/1dMhdEUvRZizmRod7AvJ9Yx1iNiTSa-nV/view

¹⁰⁴ The reason such changes have not been proposed by me in the changes is because an analysis of dental extraoral suction systems would need to be performed.

continues the myth of aerosol generating medical procedures, which because they refuse to accept even talking as an aerosol generating procedure, see no need to distinguish medical procedures from ordinary life where much of the spread occurs.¹⁰⁵

Experts Letter

Seeing this reckless inaction, aerosol scientists and others have been calling out the refusal to broadly accept aerosol transmission and have published this letter, written by Kimberly A. Prather, Linsey C. Marr, Robert T. Schooley, Melissa A. McDiarmid, Mary E. Wilson, and Donald K. Milton:¹⁰⁶

"There is overwhelming evidence that inhalation of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) represents a major transmission route for coronavirus disease 2019 (COVID-19). There is an urgent need to harmonize discussions about modes of virus transmission across disciplines to ensure the most effective control strategies and provide clear and consistent guidance to the public. To do so, we must clarify the terminology to distinguish between aerosols and droplets using a size threshold of 100 μ m, not the historical 5 μ m. This size more effectively separates their aerodynamic behavior, ability to be inhaled, and efficacy of interventions.

Viruses in droplets (larger than 100 μ m) typically fall to the ground in seconds within 2 m of the source and can be sprayed like tiny cannonballs onto nearby individuals. Because of their limited travel range, physical distancing reduces exposure to these droplets. Viruses in aerosols (smaller than 100 μ m) can remain suspended in the air for many seconds to hours, like smoke, and be inhaled. They are highly concentrated near an infected person, so they can infect people most easily in close proximity. But aerosols containing infectious virus can also travel more than 2 m and accumulate in poorly ventilated indoor air, leading to superspreading events.

Individuals with COVID-19, many of whom have no symptoms, release thousands of virus-laden aerosols and far fewer droplets when breathing and talking. Thus, one is far more likely to inhale aerosols than be sprayed by a droplet, and so the balance of attention must be shifted to protecting against airborne transmission. In addition to existing mandates of mask-wearing, social distancing, and hygiene efforts, we urge public health officials to add clear guidance

Sagami, Ryota MD1; Nishikiori, Hidefumi MD1; Sato, Takao MD1; Tsuji, Hiroaki MD1; Ono, Masami MD1; Togo, Kazumi MD2; Fukuda, Kensuke MD2; Okamoto, Kazuhisa MD2; Ogawa, Ryo MD2; Mizukami, Kazuhiro MD, PhD2; Okimoto, Tadayoshi MD, PhD2; Kodama, Masaaki MD, PhD2; Amano, Yuji MD, PhD3; Murakami, Kazunari MD, PhD2 Aerosols Produced by Upper Gastrointestinal Endoscopy: A Quantitative Evaluation, The American Journal of Gastroenterology: January 2021 - Volume 116 - Issue 1 - p 202-205 doi: 10.14309/ajq.000000000000000983

https://journals.lww.com/ajg/Fulltext/2021/01000/Aerosols_Produced_by_Upper_Gastrointestinal.33.aspx https://science.sciencemag.org/content/370/6514/303.2.full

about the importance of moving activities outdoors, improving indoor air using ventilation and filtration, and improving protection for high-risk workers."

Other cases

Then, OSHA gives several examples. The 4.8 meters away was in a hospital room in Florida, presumably with enhanced ventilation. But this was not focused on. The case in Massachusetts was in Boston at Brigham and Women's hospital¹⁰⁷. OSHA did not look at Finland, where no workers wearing FFP2¹⁰⁸ or FFP3 masks got infected, compared to many wearing lesser protection. Another example occurred in Israel¹⁰⁹. The exposures occurred, one of which was brief and while wearing droplet precautions and gloves. But how could that occur

⁻

Michael Klompas, Meghan A Baker, Diane Griesbach, Robert Tucker, Glen R Gallagher, Andrew S Lang, Timelia Fink, Melissa Cumming, Sandra Smole, Lawrence C Madoff, Chanu Rhee, for the CDC Prevention Epicenters Program, Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) From Asymptomatic and Presymptomatic Individuals in Healthcare Settings Despite Medical Masks and Eye Protection, Clinical Infectious Diseases, 2021;, ciab218, https://doi.org/10.1093/cid/ciab218

¹⁰⁸ This is the same as a N95 mask in the US.

¹⁰⁹ Lotem Goldberg, Yoel Levinsky, Nufar Marcus, Vered Hoffer, Michal Gafner, Shai Hadas, Sraya Kraus, Meirav Mor, Oded Scheuerman, SARS-CoV-2 Infection Among Health Care Workers Despite the Use of Surgical Masks and Physical Distancing—the Role of Airborne Transmission, Open Forum Infectious Diseases, Volume 8, Issue 3, March 2021, ofab036, https://doi.org/10.1093/ofid/ofab036

unless airborne transmissions occurred¹¹⁰?

¹¹⁰ https://twitter.com/abraarkaran/status/1359260827577176067?s=21

7/ The authors note that while it was hard to always isolate the circumstances of transmission, there were two definitive cases infected from the patient while wearing surgical masks and eye protection

Read this section. The patient was masked whole time in one, partly in other

Transmission Outside Cluster Units

Isolating the particular circumstances associated with most transmissions was difficult because cases on cluster units interacted with many different infected staff and/or patients on many different occasions. However, there were 2 instances in which the circumstances of transmission were more clearly defined because employees only interacted with a single case patient and only did so outside the cluster units (and hence were not exposed to nebulized air from the index patient and did not interact with any potentially infected staff members or other patients). The first was a radiology technician who performed computed tomography on the index patient 3 days after she was hospitalized. The technician reported that the encounter lasted 10 minutes; that he wore a surgical mask, eye protection, and gloves; and that the patient wore a surgical mask. He developed symptomatic

Instead of stating that droplets and particles fall out, when an aerosol stays suspended in the air, the CDC turns to contact transmission. OSHA says on pages 6-68 "Studies show that the virus can remain viable on surfaces in experimental conditions for hours to days" when those conditions include inordinately high viral loads. So instead of the distinct modes of transmission occurring, they cite a single study claiming daily cleaning reduces transmission by 77%.

Instead of looking at studies showing that in Kansas¹¹¹ and Tennessee, ¹¹² mask mandates have caused reduced transmission and hospitalizations on a county by county basis. But instead of looking at this evidence, OSHA blames this on some other factors.

OSHA could also look at the National Football League, which could not accept the six foot for 15 minute rule, and according to the Washington Post "The NFL told teams to take meetings virtual, avoid indoor gatherings, even if they were distanced and quit eating together. If someone had done any of these things with a person who subsequently tested positive, they had to be isolated, regardless of how brief their interaction had been." Emergency physician Megan Ranney viewed this as not a surprise¹¹³.

Study: Mask mandate slows spread of COVID by 50% in Kansas | The Kansas City Star
 5f9862c2ed198.pdf.pdf (google.com)

¹¹³ https://twitter.com/meganrannev/status/1353892269707952129?s=21



Shocker, let me tell you.

Theo Allen is full vaccinated - Universal Masking @Universal... · 1/25/21

Replying to @UniversalMaski2 @lamgoingtosleep and 48 others

Factors found to increase transmission included

- * indoor unmasked activities
- * ridesharing
- * eating and drinking in close proximity (2/

To date, the ability to define a close contact has been limited. An investigation from a Vermont corrections facility confirmed that cumulative brief interactions exceeding 15 minutes in total could lead to transmission (6). However, among 21 NFL cases for which contact tracing indicated likely within-club transmission, seven infected persons had no interactions exceeding 15 cumulative minutes per day within 1.8 meters (6 feet) of a person with COVID-19, as confirmed by wearable proximity devices. This finding led to a revised high-risk contact definition that included ascertainment of mask use and setting, in addition to duration of exposure and proximity.

Although proximity devices provided detailed information about possible high-risk interactions, prompt, detailed, contact tracing beyond proximity device data was needed to identify high-risk behaviors and enable quarantine of exposed persons. All high-risk contacts who subsequently received a COVID-19 diagnosis were identified, at lot in part, from information obtained through interviews. Indoor unmasked activities, ridesharing in personal vehicles, and eating and drinking in close proximity were of particular risk, as has been previously reported (7).

Yet the league's policy on what restrictions vaccinated workers are not subject to should emphasize how the league feels the vaccines really work and the risk to unvaccinated players and staff has not reduced significantly. OSHA should protect all workers and consider most employers do not have the resources of the National Football League to conduct these

Protocol Modifications for Vaccinated Individuals

Fully Vaccinated	Not Fully Vaccinated
No daily testing required	Testing required <u>every day</u>
Masks not required at club facility or during team travel	 Masks required at club facility and during travel
No physical distancing required in club facility with other vaccinated individuals	 Must remain physically distant from others in club facility
No quarantine required after High Risk exposure to COVID	 Must quarantine after High Risk exposure to COVID
No travel restrictions	Travel restrictions in effect
No capacity limits in weight room when all fully vaccinated	15 player limit in weight room
May eat in cafeteria with other fully vaccinated individuals	 Players must be physically distanced in meal room; may not eat with teammates; Staff must grab-and-go; no meals in the cafeteria
No restrictions on social/media/ marketing/sponsorship opportunities	 No social/media/ marketing/ sponsorship activities permitted
May use sauna/steam room	May not use sauna/steam room
May interact with vaccinated family/friends during team travel	 May not leave team hotel to eat in restaurants; may not interact with anyone outside of Team Traveling Party during team travel

-

¹¹⁴ https://twitter.com/tompelissero/status/1405226106802872324?s=21

Influenza

Yet the CDC could even look at influenza, which is not as contagious as COVID-19. In fact, this virus was stopped by the physical distancing and other measures we took. We did not even have a flu season during the 2020-21 winter¹¹⁵. Nevertheless, OSHA refuses to consider the suggestion of Kevin Fennelly to suggest "that infection control guidelines should be re-evaluated to account for the predominance of small particles within infectious aerosols" and that "[a]irborne infection control measures are indicated."¹¹⁶

Based on Occupational Medicine Dr. Don Milton's presentation to the University of Maryland School of Public health, with influenza, the aerosol infectious dose was between 0.3 and 3 units while to get asymptomatic infection through intranasal transmission, it took over 100 units on average, and to get symptoms (which did not include fever), it took in the range of one hundred thousand doses to produce. Given this clear disparity, if it holds for SARS-CoV-2, then the need to mitigate against the contact mode of infection, or even the droplet mode of infection, as the OSHA emergency temporary standard proposes to do would be negligible.

-

¹¹⁵ https://m.facebook.com/story.php?story fbid=266077071131731&id=136968075578& rdr

¹¹⁶ Fennelly K. (2020, July 24) Particle sizes of infectious aerosols: implications for infection control. Lancet Respir Med 2020; 8: 914–24. https://doi.org/10.1016/S2213-2600(20)30323-4 (Fennelly, July 24, 2020)

Influenza: Dose and Route of Infection M

- Aerosol inoculation of humans
 - Infectious dose (HID₅₀) = 0.6 to 3 TCID₅₀
 - Reproduces full-blown influenza-like-illness with fever at the HID₅₀
 - · Sometimes associated with prolonged wheezing or nausea and vomiting
- Intranasal inoculation of humans
 - HID₅₀ = 127 to 320 TCID₅₀
 - No or minimal symptoms at HID_{so}
 - Dose required to produce influenza like symptoms = 80,000 to 180,000 TCID₅₀
 - · Fever and lower respiratory symptoms absent or mild at high doses



Yet OSHA does not stand its ground in the view of Jordan Barab, the Deputy Assistant Secretary for OSHA under Former President Obama, in stating influenza is airborne because the CDC is listened to 117. This deference and failure to consider the current science, given the complete deference to the CDC's guidance based on a longstanding presumption that droplets are not relevant does not constitute substantial evidence.

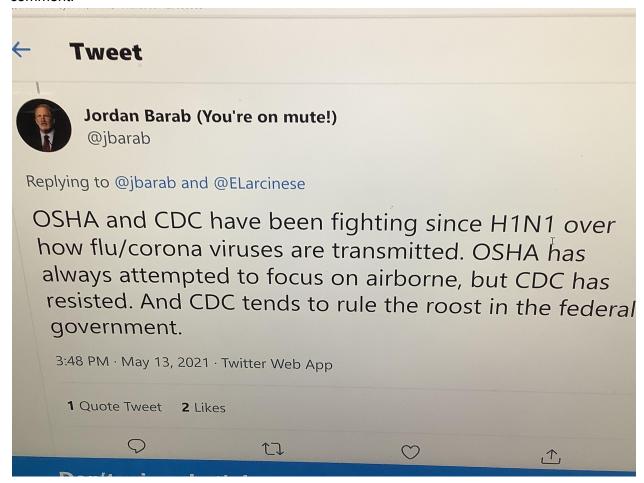
Wired describes what happened instead. What must have happened, she thought, was that after Wells died, scientists inside the CDC conflated his observations. They plucked the size of the particle that transmits tuberculosis out of context, making 5 microns stand in for a general definition of airborne spread. Wells' 100-micron threshold got left behind. You can see that the idea of what is respirable, what stays airborne, and what is infectious are all being flattened into this 5-micron phenomenon,' Randall says. Over time, through blind repetition, the error sank deeper into the medical canon. The CDC did not respond to multiple requests for

¹¹⁷ https://twitter.com/ibarab/status/1392929687127666688?s=20

¹¹⁸ https://www.wired.com/story/the-teeny-tiny-scientific-screwup-that-helped-covid-kill/

¹¹⁹ That being using the five micron barrier.

comment."



CDC Contradiction

Yet the Center for Disease Control and Prevention in their questions and answers for general business in the question asks "How long will it take to dilute the concentration of infectious particles in a room once they are generated?" The answer is actually similar to what I am saying¹²⁰

"While large droplets (100 micrometers [μ m] and larger) will settle to surrounding surfaces within seconds, smaller particles can stay suspended in the air for much longer. It can take several minutes for particles 10 μ m in size to settle, while particles 5 μ m and smaller may not settle for hours or even days. Dilution ventilation and particle filtration are commonly used to remove these smaller particles from the air. Larger particles can also be removed using these strategies, but since they fall out of the air quickly, they might not have a chance to get captured by filtration systems."

¹²⁰ https://downloads.regulations.gov/OSHA-2020-0004-0649/content.pdf

Yet they subsequently twice admit that these human interactions from coughing or sneezing are not adequately protected by droplet precautions when they say:

"Research shows that the particle size of SARS-CoV-2, the virus that causes COVID-19, is around 0.1 micrometer (μ m). However, the virus generally does not travel through the air by itself. These viral particles are human-generated, so the virus is trapped in respiratory droplets and droplet nuclei (dried respiratory droplets) that are larger. Most of the respiratory droplets and particles exhaled during talking, singing, breathing, and coughing are less than 5 μ m in size."

These statements, even though obscure in location, contradiction

Consequences

As a consequence, without stating the method of transmission is airborne, OSHA ignores the science and the emergency temporary standard will require significant changes. The guidance will need to be adjusted to include all workers under a model to protect against the route of inhalation of aerosols against COVID-19.

In addition, the third core element of hazard identification means for "determining if workers could be exposed (e.g., through close contact with patients, co- workers, or members of the public; contact with contaminated surfaces, objects, or waste) and if controls are present to mitigate those risks (OSHA, 2005; OSHA, October 18, 2016)." Yet OSHA defines in the third core element examples for which workers could supposedly be exposed, such as close contact or surface contamination, but omits the critical risk which is shared air. The fourth core element of hazard prevention and control cannot be done without identifying the hazard in the third core element, so consequently, much of what is listed is not needed.¹²¹

The Environmental Protection Agency notes specifically "Though the risk of infection by breathing in particles carrying the virus generally decreases with distance from infected people and with time, some circumstances increase the risk of infection:

75

¹²¹ The cleaning and disinfecting as well as physical barriers are not enough.

- "Being indoors rather than outdoors, particularly in indoor environments where ventilation with outside air is inadequate
- Activities that increase emission of respiratory fluids, such as speaking loudly, singing, or exercising
- Prolonged time of exposure (e.g. longer than a few minutes)
- Crowded spaces, particularly if face coverings are inconsistently or improperly worn".

I decided to implement this due to OSHA refusing to consider these first two grounds.